PCT/US2003/039722

Rec'd PCT/PTO 31 MAY 2005

SEQUENCE LISTING

```
<110> Qing Zhu
      Ju-Tao Guo
      Christoph Seeger
<120> Replication of Hepatitis C Virus in
 Non-Hepatic Epithelial and Mouse Hepatic Cells
<130> 0149 PO3068
<140> Not Yet Assigned
<141> 2003-12-12
<150> 60/433,303
<151> 2002-12-13
<160> 16
<170> FastSEO for Windows Version 3.0
<210> 1
<211> 11313
<212> DNA
<213> Artificial Sequence
<220>
<223> Plasmid
<400> 1
```

gccagccccc gattgggggc gacactccac catagatcac tcccctgtga ggaactactg 60 120 tetteacgea gaaagegtet agecatggeg ttagtatgag tgtegtgeag cetecaggae ccccctccc gggagagcca tagtggtctg cggaaccggt gagtacaccg gaattgccag 180 gacgaceggg teetttettg gateaacecg etcaatgeet ggagatttgg gegtgeecec gegagaetge tageegagta gtgttgggte gegaaaggee ttgtggtact geetgatagg 240 300 gtgcttgcga gtgccccggg aggtctcgta gaccgtgcac catgagcacg aatcctaaac 360 ctcaaagaaa aaccaaaggg cgcgccatga ttgaacaaga tggattgcac gcaggttctc 420 480 eggeegettg ggtggagagg etattegget atgaetggge acaacagaca ateggetget 540 ctgatgccgc cgtgttccgg ctgtcagcgc aggggcgccc ggttcttttt gtcaagaccg acctgtccgg tgccctgaat gaactgcagg acgaggcagc gcggctatcg tggctggcca cgacgggcgt tccttgcgca gctgtgctcg acgttgtcac tgaagcggga agggactggc 600 660 tgctattggg cgaagtgccg gggcaggatc tcctgtcatc tcaccttgct cctgccgaga 720 780 aagtatccat catggctgat gcaatgcggc ggctgcatac gcttgatccg gctacctgcc cattegacea ceaagegaaa categeateg agegageaeg tacteggatg gaageeggte 840 ttgtcgatca ggatgatctg gacgaagagc atcaggggct cgcgccagcc gaactgttcg 900 960 ccaggeteaa ggegegeatg cccgaeggeg aggatetegt egtgaeceat ggegatgeet 1020 gcttgccgaa tatcatggtg gaaaatggcc gcttttctgg attcatcgac tgtggccggc tgggtgtggc ggaccgctat caggacatag cgttggctac ccgtgatatt gctgaagagc 1080 ttggcggcga atgggctgac cgcttcctcg tgctttacgg tatcgccgct cccgattcgc agcgcatcgc cttcttacgc cttcttgacg agttcttctg agtttaaaca gaccacaacg gtttccctct agcgggatca attccgccc tctccctcc cccccctaa cgttactggc 1140 1200 1260 cgaagccgct tggaataagg ccggtgtgcg tttgtctata tgttattttc caccatattg 1320 cogtettitg geaatgtgag ggcccggaaa cetggccetg tettettgac gagcatteet aggggtcttt cccctctcgc caaaggaatg caaggtctgt tgaatgtcgt gaaggaagca 1440 1500 gttcctctgg aagcttcttg aagacaaaca acgtctgtag cgaccctttg caggcagcgg aacccccac ctggcgacag gtgcctctgc ggccaaaagc cacgtgtata agatacacct 1560 gcaaaggcgg cacaacccca gtgccacgtt gtgagttgga tagttgtgga aagagtcaaa 1620 tggctctcct caagcgtatt caacaagggg ctgaaggatg cccagaaggt accccattgt atgggatctg atctggggcc tcggtgcaca tgctttacat gtgtttagtc gaggttaaaa 1680 1740 aacgtctagg cccccgaac cacggggacg tggttttcct ttgaaaaaca cgataatacc 1800 atggcgccta ttacggccta ctcccaacag acgcgaggcc tacttggctg catcatcact 1860 agectcacag geegggacag gaaccaggte gagggggagg tecaagtggt etceaecgca 1920 1980 acacaatctt tcctggcgac ctgcgtcaat ggcgtgtgtt ggactgtcta tcatggtgcc ggctcaaaga cccttgccgg cccaaagggc ccaatcaccc aaatgtacac caatgtggac 2040

caggacctcg	tcggctggca	agcgcccccc	ggggcgcgtt	ccttgacacc	atgcacctgc	2100
				tcattccggt		2160
ggcgacagca	gggggagcct	actctcccc	aggcccgtct	cctacttgaa	gggctcttcg	2220
				tctttcgggc		2280
				agtctatgga		2340
				taccgcagac		2400
				aggtgccggc		2460
				ccgccaccct		2520
gcgtatatgt	ctaaggcaca	tggtatcgac	cctaacatca	gaaccggggt	aaggaccatc	2580
				ttcttgccga		2640
				actcaactga		2700
atcctgggca	teggeacagt	cctggaccaa	gcggagacgg	ctggagcgcg	actcgtcgtg	2760
				atccaaacat		2820
				ccatccccat		2880
				aatgtgatga		2940 3000
				ggggccttga ctctaatgac		3060
				cccagacagt		3120
				aagacgcggt		3180
				acaggtttgt		3240
				agtgctatga		3300
				tgcgggctta		3360
				agagcgtctt		3420
				caggagacaa		3480
ctggtagcat	accaggctac	ggtgtgcgcc	agggctcagg	ctccacctcc	atcgtgggac	3540
caaatgtgga	agtgtctcat	acggctaaag	cctacgctgc	acgggccaac	gcccctgctg	3600
tataggctgg	gagccgttca	aaacgaggtt	actaccacac	accccataac	caaatacatc	3660
atggcatgca	tgtcggctga	cctggaggtc	gtcacgagca	cctgggtgct	ggtaggcgga	3720
				gcgtggtcat		3780
				aagtccttta		3840
gatgagatgg	aagagtgcgc	ctcacacctc	ccttacatcg	aacagggaat	gcagctcgcc	3900
				ccaccaagca		3960
				ccttctgggc		4020
				ccactctgcc		4080 4140
				gcccgctcac aacttgctcc		4200
				ttggcagcat		4260
aaggtgcttg	togatatttt	ggcaggttat	adadcadada	tggcaggcgc	acteatagee	4320
tttaaggtca	tgagcggcga	gatgccctcc	accgaggacc	tggttaacct	actecetect	4380
atcctctccc	ctggcgccct	agtcgtcggg	atcatataca	cagcgatact	gcqtcqqcac	4440
gtgggcccag	gggaggggc	tgtgcagtgg	atgaaccggc	tgatagcgtt	cacttcacaa	4500
ggtaaccacg	tctccccac	gcactatgtg	cctgagagcg	acgctgcagc	acgtgtcact	4560
cagatcctct	ctagtcttac	catcactcag	ctgctgaaga	ggcttcacca	gtggatcaac	4620
gaggactgct	ccacgccatg	ctccggctcg	tggctaagag	atgtttggga	ttggatatgc	4680
				tcctgccgcg		4740
				ggcgggggga		4800
				tgaaaaacgg		4860
atcgtggggc	ctaggacctg	tagtaacacg	tggcatggaa	cattccccat	taacgcgtac	4920
accacgggcc	cctgcacgcc	ctccccggcg	ccaaattatt	ctagggcgct	gtggcgggtg	4980
gergergagg	agtacgtgga	ggttacgcgg	gtgggggatt	tccactacgt	gacgggcatg	5040
gatgggtag	acguaaagug	ceegigicag	greeeggeee	ccgaattctt	cacagaagtg	5100 5160
				ccctcctacg agctcccatg		5220
				cccacattac		5280
actaaacata	gactaaccaa	gggatctccc	ccctccttaa	ccagctcatc	agetageea	5340
ctatctacac	cttccttgaa	ggcaacatgc	actacccatc	atgactcccc	ggacgctgac	5400
ctcatcgagg	ccaacctcct	gtggcgacaa	gagatgaga	ggaacatcac	ccqcataaaa	5460
tcagaaaata	aggtagtaat	tttggactct	ttcgagccgc	tccaagcgga	ggaggatgag	5520
agggaagtat	ccgttccggc	ggagatcctg	cggaggtcca	ggaaattccc	tcgagcgatg	5580
cccatatggg	cacgcccgga	ttacaaccct	ccactgttag	agtcctggaa	ggacccggac	5640
tacgtccctc	cagtggtaca	cgggtgtcca	ttgccgcctg	ccaaggcccc	tccgatacca	5700
cctccacgga	ggaagaggac	ggttgtcctg	tcagaatcta	ccgtgtcttc	tgccttggcg	5760
gagctcgcca	caaagacctt	cggcagctcc	gaatcgtcgg	ccgtcgacag	cggcacggca	5820
acggcctctc	ctgaccagcc	ctccgacgac	ggcgacgcgg	gatccgacgt	tgagtcgtac	5880
tatacatta	cccccttga	gggggagccg	ggggatcccg	atctcagcga	cgggtcttgg	5940
cetaeegtaa	gegaggagge	Lagigaggac	gregrerget	gctcgatgtc	ctacacatgg	6000

				_		
acaggcgccc	tgatcacgcc	atgegetgeg	gaggaaacca	agctgcccat	caatgcactg	6060
accaactett	tactacata	ccacaacttc	gtctatgcta	caacatctcg	cagcgcaagc	6120
agcaaccec		at the annual contract of		t-~2002003	atagggggg	6180
ctgcggcaga	agaaggccac	Cullyacaga	ergeaggree	tggacgacca	ccaccgggac	
gtgctcaagg	agatgaaggc	gaaggcgtcc	acagttaagg	ctaaacttct	acccgcggag	6240
gaageetgta	agetgaegee	cccacattcq	gccagateta	aatttggcta	tggggcaaag	<i>6</i> 300
gacgtccgga	acctatccag	caagggggtt	aaccacatcc	gctccgtgtg	gaaggacttg	6360
5469666954	atananana	22440200	agostoatoo	daaaaat da	gattttctac	6420
ctggaagaca	etgagaeaee	aattgacacc	accattatgg	caaaaaatga	ggccccccgc	
gtccaaccag	agaagggggg	ccgcaagcca	gctcgcctta	tcgtattccc	agatttgggg	6480
attcatatat	gcgagaaaat	ggccctttac	gatgtggtct	ccaccctccc	tcaggccgtg	6540
atgaactett	catacogatt	ccaatactct	cctggacage	gggtcgagtt	cctggtgaat	6600
~~~		agatatagaa	ttagantata	acaccacta	ttttgactca	6660
geetggaaag	cgaagaaacg	ccctatgggc	Lecgeacacg	acacccgctg	teresteres	
acggtcactg	agaatgacat	ccgtgttgag	gagtcaatct	accaatgttg	tgaettggee	6720
cccgaagcca	gacaggccat	aaggtcgctc	acagagcggc	tttacatcgg	gggccccctg	6780
actaattcta	aagggcagaa	ctgcggctat	caccaatacc	gcgcgagcgg	tgtactgacg	6840
aggagataga	ataataaaat	cacatottac	ttasaaacca	ctgcggcctg	tcgagctgcg	6900
accageege	gcaacacccc	cacacgccac			ctctcccc	6960
aagctccagg	actgcacgat	getegtatge	ggagacgacc	ttgtcgttat	Cigigaaage	
gcggggaccc	aagaggacga	ggcgagccta	cgggccttca	cggaggctat	gactagatac	7020
tetaccccc	ctggggaccc	gcccaaacca	gaatacgact	tggagttgat	aacatcatgc	7080
tectecaste	tatceatcac	gracgatora	tetageaaaa	gggtgtacta	teteaccegt	7140
cccccaacg	cgccagccgc	geacgaegea		555555555	tagaataaat	7200
gaceceacea	eeeeeeeee	gegggetgeg	Lyggagacag	ctagacacac	cccagccaac	
tcctggctag	gcaacatcat	catgtatgcg	cccaccttgt	gggcaaggat	gateetgatg	7260
actcatttct	tctccatcct	tctagctcag	gaacaacttg	aaaaagccct	agattgtcag	7320
atctacgggg	cctcttactc	cattgagcca	cttgacctac	ctcagatcat	tcaacgactc	7380
acctacgggg		cattgageta		~t~~~t~~	taggetaggt	7440
catggeetta	gegeatttte	actecatage	Lactottoday	gtgagatcaa	cagggcggcc	
tcatgcctca	ggaaacttgg	ggtaccgccc	ttgcgagtct	ggagacatcg	ggccagaagt	7500
gtccgcgcta	ggctactgtc	ccagggggg	agggctgcca	cttgtggcaa	gtacctcttc	7560
aactggggag	taaqqaccaa	geteaaacte	actccaatcc	cggctgcgtc	ccagttggat	7620
4401999049		+~~++~~~~	~~~~~~~	tatataaaa	catatatat	7680
ttateeaget	ggttegttge	Lygicalage	ggggagaca	tatatcacag	cccgcccgc	
gcccgacccc	gctggttcat	gtggtgccta	ctcctacttt	ctgtaggggt	aggeatetat	7740
ctactcccca	accgatgaac	ggggacctaa	acactccagg	ccaataggcc	atcctgtttt	7800
				tttttttt		7860
ttttaatat	tttttaatt	ttatttaatt	taataaataa	atcttagccc	tagtcacggc	7920
						7980
					gcctctctgc	
agatcaagta	ctcctgcagg	cgcgccacta	gtgggaatac	gcggggtatg	ccgcgtttta	8040
gcatattgac	gacccaattc	tcatqtttqa	cagcttatca	tcgataagct	ttaatgcggt	8100
agtttatgag	anttaaattn	ctaacccact	caggraccgt	gtatgaaatc	taacaatgcg	8160
agillactac	agctadactg	ccaacgcagc	caggeacege	geatgaaatt	aattataaaa	8220
ctcatcgtca	teeteggeae	egreaceerg	gatgetgtag	geataggett	ggttatgccg	
gtactgccgg	gcctcttgcg	ggatatcgtc	cattccgaca	gcatcgccag	tcactatggc	8280
gtgctgctag	cgctatatgc	gttgatgcaa	tttctatgcg	cacccgttct	cggagcactg	8340
tecasecact	ttaaccacca	cccagtcctg	ctcacttcac	tacttggagc	cactatcgac	8400
toegacogco	+caacaacaa	agggtagta	tagatagtat	addcddacd	catcataacc	8460
tacgcgatca	cggcgaccac	accegioning	tggattett	acgccggacg	catcgtggcc	
ggcatcaccg	gcgccacagg	tgcggttgct	ggcgcctata	tcgccgacat	caccgatggg	8520
gaagatcggg	ctcgccactt	cgggctcatg	agcgcttgtt	tcggcgtggg	tatggtggca	8580
gaccccatag	ccaagaaact	attagacacc	atctccttgc	atgcaccatt	ccttgcggcg	8640
ggaatastas	acccctcaa	cctactacto	gactacttcc	taatgcagga	gtcgcataag	8700
geggegetea	acggccccaa		5500000000	tancetast	500500000	8760
ggagagcgtc	gaccgatgcc	ettgagagee	Etcaacccag	Leagereerr	ccggtgggcg	
cggggcatga	ctatcgtcgc	cgcacttatg	actgtcttct	ttatcatgca	actcgtagga	8820
caggtgccgg	cagcgctctg	ggtcattttc	ggcgaggacc	gctttcgctg	gagcgcgacg	8880
atgatcggc	tatcacttac	ggtattcgga	atcttgcacg	ccctcactca	agccttcgtc	8940
205466556	050050050	tttaaaaaaa		ttatcaccaa	catggcggcc	9000
actggteeeg	Cuaccaacy	ccccggcgag	aagcaggcca	taccyccyy		9060
gacgcgctgg	gctacgtctt	gctggcgttc	gcgacgcgag	getggatgge	cttccccatt	
atgattcttc	tcgcttccgg	cggcatcggg	atgcccgcgt	tgcaggccat	gctgtccagg	9120
caggtagatg	acgaccatca	gggacagctt	caaqqatcqc	tcqcqqctct	taccagccta	9180
acttematea	ctggaccgct	gatcgtcacg	acaetttata	ceaecteaac	gagcacatgg	9240
accegacea		9400900409	9094000409	+ + + + + + + + + + + + + + + + + + + +	gagaattaaat	9300
aacgggttgg	catggattgt	aggegeegee	ctatacettg	Leigeelee	cgcgttgcgt	
cgcggtgcat	ggagccgggc	cacctcgacc	tgaatggaag	ccggcggcac	ctcgctaacg	9360
gattcaccac	tccaagaatt	ggagccaatc	aattcttgcg	gagaactgtg	aatgcgcaaa	9420
ccaaccette	gcagaacata	tecategest	ccaccatete	cagcagccg	acgcggcgca	9480
+a+aaaaaa	- cattaaataa	tagaasaasa	tacacetast	catactacta	tcattaaga	9540
ccccgggcag	cgccgggccc	tagecacggg	Lycycatyat		tcgttgagga	9600
cccggctagg	crggcggggt	tgccttactg	gttagcagaa	. rgaarcaccg	atacgcgagc	
gaacgtgaag	cgactgctgc	tgcaaaacgt	ctgcgacctg	agcaacaaca	tgaatggtct	9660
tcaatttcca	tatttcataa	agtotogaaa	cacaaaatc	agegeectae	accattatgt	9720
					tctgtattaa	9780
			accergegg	autacciaca	. cotgoudada	9840
cgaagcgctg	gcattgacco	rgagrgartt	tretetggte	cegeegeate	cataccgcca	_
gttgtttacc	ctcacaacgt	tccagtaacc	gggcatgttc	atcatcagta	accegtateg	9900
tgagcatcct	ctctcqtttc	atcggtatca	ttacccccat	gaacagaaat	tcccccttac	9960
~ ~	_					

PCT/US2003/039722 WO 2004/055216

acggaggcat	caagtgacca	aacaggaaaa	aaccgccctt	aacatggccc	gctttatcag	10020
aagccagaca	ttaacgcttc	tggagaaact	caacgagctg	gacgcggatg	aacaggcaga	10080
catctgtgaa	tcgcttcacg	accacgctga	tgagctttac	cgcagctgcc	tcgcgcgttt	10140
cggtgatgac	ggtgaaaacc	tctgacacat	gcagctcccg	gagacggtca	cagcttgtct	10200
gtaagcggat	accadagaacs	gacaagcccg	teaggggggg	teagegggtg	ttggcgggtg	10260
tcggggcgca	gccatgaccc	agtcacgtag	cgatagcgga	gtgtatactg	gcttaactat	10320
gcggcatcag	agcagattgt	actgagagtg	caccatatgc	ggtgtgaaat	accgcacaga	10380
tgcgtaagga	gaaaataccg	catcaggcgc	tcttccgctt	cctcgctcac	tgactcgctg	10440
cgctcggtcg	ttcggctgcg	gcgagcggta	tcagctcact	caaaggcggt	aatacggtta	10500
tccacagaat	caggggataa	cgcaggaaag	aacatgtgag	caaaaggcca	gcaaaaggcc	10560
aggaaccgta	aaaaggccgc	gttgctggcg	tttttccata	ggctccgccc	ccctgacgag	10620
catcacaaaa	atcgacgctc	aagtcagagg	tggcgaaacc	cgacaggact	ataaagatac	10680
caggcgtttc	cccctggaag	ctccctcgtg	cgctctcctg	ttccgaccct	gccgcttacc	10740
ggatacctgt	ccgcctttct	cccttcggga	agcgtggcgc	tttctcatag	ctcacgctgt	10800
aggtatctca	gttcggtgta	ggtcgttcgc	tccaagctgg	gctgtgtgca	cgaacccccc	10860
gttcagcccg	accgctgcgc	cttatccggt	aactatcgtc	ttgagtccaa	cccggtaaga	10920
cacgacttat	cgccactggc	agcagccact	ggtaacagga	ttagcagagc	gaggtatgta	10980
ggcggtgcta	cagagttctt	gaagtggtgg	cctaactacg	gctacactag	aaggacagta	11040
tttggtatct	gcgctctgct	gaagccagtt	accttcggaa	aaagagttgg	tagctcttga	11100
tccggcaaac	aaaccaccgc	tggtagcggt	ggttttttg	tttgcaagca	gcagattacg	11160
cgcagaaaaa	aaggatctca	agaagatcct	ttgatctttt	ctacggggtc	tgacgctcag	11220
tggaacgaaa	actcacgtta	agggattttg	gtcatgagat	tatcaaaaag	gatcttcacc	11280
tagatccttt	tctagataat	acgactcact	ata			11313

<210> 2

<211> 11313

<212> DNA

<213> Artificial Sequence

<220>

<223> Plasmid

## <400> 2

60 gccagccccc gattgggggc gacactccac catagatcac tcccctgtga ggaactactg tottcacgca gaaagcgtot agccatggcg ttagtatgag tgtcgtgcag cotccaggac 120 ccccctccc gggagagcca tagtggtctg cggaaccggt gagtacaccg gaattgccag 180 gacgaccggg teetttettg gatcaacccg etcaatgeet ggagatttgg gegtgeecce 240 gegagactge tageegagta gtgttgggte gegaaaggee ttgtggtaet geetgatagg 300 gtgcttgcga gtgccccggg aggtctcgta gaccgtgcac catgagcacg aatcctaaac 360 ctcaaagaaa aaccaaaggg cgcgccatga ttgaacaaga tggattgcac gcaggttctc 420 480 eggeegettg ggtggagagg etattegget atgaetggge acaacagaca ateggetget ctgatgccgc cgtgttccgg ctgtcagcgc aggggggccc ggttcttttt gtcaagaccg 540 acctgtccgg tgccctgaat gaactgcagg acgaggcagc gcggctatcg tggctggcca 600 660 cgacgggcgt tccttgcgca gctgtgctcg acgttgtcac tgaagcggga agggactggc tgctattggg cgaagtgccg gggcaggatc tcctgtcatc tcaccttgct cctgccgaga 720 aagtatecat catggetgat geaatgegge ggetgeatae gettgateeg getaeetgee 780 cattegacea ceaagegaaa categeateg agegageaeg tacteggatg gaageeggte 840 900 ttgtcgatca ggatgatctg gacgaagagc atcaggggct cgcgccagcc gaactgttcg 960 ccaggetcaa ggegegeatg cccgaeggeg aggatetegt egtgaeceat ggegatgeet gcttgccgaa tatcatggtg gaaaatggcc gcttttctgg attcatcgac tgtggccggc tgggtgtggc ggaccgctat caggacatag cgttggctac ccgtgatatt gctgaagagc 1020 1080 ttggcggcga atgggctgac cgcttcctcg tgctttacgg tatcgccgct cccgattcgc agcgcatcgc cttctatcgc cttcttgacg agttcttctg agtttaaaca gaccacaacg 1140 1200 gtttccctct agegggatca attccgcccc tctccctccc cccccctaa cgttactggc 1260 cgaagccgct tggaataagg ccggtgtgcg tttgtctata tgttattttc caccatattg 1320 1380 cegtettttg geaatgtgag ggeeeggaaa cetggeeetg tettettgae gageatteet 1440 aggggtcttt cccctctcgc caaaggaatg caaggtctgt tgaatgtcgt gaaggaagca gttcctctgg aagcttcttg aagacaaaca acgtctgtag cgaccctttg caggcagcgg 1500 aaccccccac ctggcgacag gtgcctctgc ggccaaaagc cacgtgtata agatacacct 1560 gcaaaggcgg cacaacccca gtgccacgtt gtgagttgga tagttgtgga aagagtcaaa 1620 tggctctcct caagcgtatt caacaagggg ctgaaggatg cccagaaggt accccattgt 1680 atgggatctg atctggggcc tcggtgcaca tgctttacat gtgtttagtc gaggttaaaa 1740 aacgtctagg cccccgaac cacggggacg tggttttcct ttgaaaaaca cgataatacc 1800 atggcgccta ttacggccta ctcccaacag acgcgaggcc tacttggctg catcatcact 1860

_						
agcctcacag	gccgggacag	gaaccaggtc	gagggggägg	tccaagtggt	ctccaccgca	1920
acacaatctt	tcctggcgac	ctgcgtcaat	agcatatatt	ggactgtcta	tcatggtgcc	1980
ggctcaaaga	cccttaccaa	cccaaagggc	ccaatcaccc	aaatgtacac	caatgtggac	2040
caggaceteg	traartaara	agcgccccc	agagagaatt	cottoscac	atacacata.	
accoacteca	2099009904	age 30000000	ggggcgcgcc	tasts	acgcaccigo	2100
ggcagci.cgg	ACCULINACUL	ggtcacgagg	caraccarra	ccarreegge	acaccaacaa	2160
ggcgacagca	gggggagcct	actctccccc	aggcccgtct	cctacttgaa	gggctcttcg	2220
ggcggtccac	tgctctgccc	ctcggggcac	gctgtgggca	tctttcgggc	tgccqtqtqc	2280
acccgagggg	ttgcgaaggc	ggtggacttt	gtacccgtcg	agtctatoga	aaccactato	2340
caat ccccaa	tetteacoga	caactcgtcc	cetecadada	taccacacac	attacacata	
aggeotetagg	neessatis	taatoca	ceeeeggeeg	caccycagac	accedaggeg	2400
geceatetae	acgeeeecae	tggtagcggc	aagagcacta	aggrgccggc	tgcgtatgca	2460
gcccaagggt	ataaggtgct	tgtcctgaac	ccgtccgtcg	ccgccaccct	aggtttcggg	2520
gcgtatatgt	ctaaggcaca	tggtatcgac	cctaacatca	gaaccggggt	aaggaccatc	2580
accacgggtg	cccccatcac	gtactccacc	tatggcaagt	ttcttgccga	caataattac	2640
tetagagaga	cctatgacat	cataatatgt	gatgagtgcc	actcaactca	ctccaccact	2700
atrotroros	tragagagat	cctggaccaa	200202020	atecadorga	cccgaccacc	
atcotgggca	coggeacage		gcggagacgg	cragagegeg	acceguegeg	2760
ctegecaceg	ctacgcctcc	gggatcggtc	accgtgccac	atccaaacat	cgaggaggtg	2820
gctctgtcca	gcactggaga	aatccccttt	tatggcaaag	ccatccccat	cgagaccatc	2880
aaggggggga	ggcacctcat	tttctgccat	tccaagaaga	aatgtgatga	actcaccaca	2940
aagctgtccg	gcctcggact	caatgctgta	gcatattacc	ggggccttga	tgtatccgtc	3000
ataccaacta	acadagacat	cattgtcgta	200000000	atataataaa	ggggtttagg	3060
acacotttaa	3055494090	caccaccaca	gcaacggacg		gggccccacc	
ggcgatttcg	actcagtgat	cgactgcaat	acatgtgtca	cccagacagt	cgacttcagc	3120
ctggacccga	ccttcaccat	tgagacgacg	accgtgccac	aagacgcggt	gtcacgctcg	3180
cagcggcgag	gcaggactgg	taggggcagg	atgggcattt	acaggtttgt	gactccagga	3240
gaacggccct	cgggcatgtt	cgattcctcg	attctataca	agtactataa	cacaaactat	3300
acttaataca	ageteaegee	cgccgagacc	tcagttaggt	tacaaactta	cctaaacaca	3360
ccanggttac	ccatatacas	ggaccatctg	gagttgtgg	agaggggtatt	tagagggete	3420
20023330030	accecattt	attataaaaa	gageceeggg	agagegeeee	cacaggeeee	
acccacacag	acgcccattt	cttgtcccag	accaagcagg	caggagacaa	cttcccctac	3480
ctggtageat	accaggetae	ggtgtgcgcc	agggctcagg	ctccacctcc	atcgtgggac	3540
caaatgtgga	agtgtctcat	acggctaaag	cctacgctgc	acgggccaac	gcccctgctg	3600
tataggctgg	gagccgttca	aaacgaggtt	actaccacac	accccataac	caaatacatc	3660
atggcatgca	tgtcggctga	cctggaggtc	qtcacqaqca	cctagatact	gatagacaga	3720
atcctagcag	ctctaaccac	gtattgcctg	acaacaggca	acataatcat	tatagacaga	3780
atcatcttot	ccddaaadcc	ggccatcatt	ccccacacac	220100111	cacacacatta	3840
astasastaa	aagagagaga	stancacata	cettagatag	aageceeea	ccgggagccc	
gacgagacgg	aagagtgcgc	ctcacacctc	ccicacateg	aacagggaat	geageregee	3900
gaacaaccca	aacagaaggc	aatcgggttg	ctgcaaacag	ccaccaagca	agcggaggct	3960
		caagtggcgg				4020
tggaatttca	tcagcgggat	acaatattta	gcaggcttgt	ccactctgcc	tggcaacccc	4080
gcgatagcat	cactgatggc	attcacagcc	tctatcacca	gcccgctcac	cacccaacat	4140
		ggggggatgg				4200
		cggcatcgct				4260
aaggtgcttg	togatattt	ggcaggttat	22-2622662	taggaggag	aggeoteggg	4320
tttaaggtaa	+ 42 44 44 44 44	ggcaggccac	9949449999	tagtaggege	getegegee	
-t-caaggcca	cyageggega	gatgccctcc	accgaggacc	tggttaacct	actecetget	4380
atcctctccc	ctggcgccct	agtcgtcggg	gtcgtgtgcg	cagcgatact	gcgtcggcac	4440
gtgggcccag	gggaggggc	tgtgcagtgg	atgaaccggc	tgatagcgtt	cgcttcgcgg	4500
ggtaaccacg	tctcccccac	gcactatgtg	cctgagagcg	acgctgcagc	acgtgtcact	4560
cagatectet	ctagtcttac	catcactcag	ctactaaaaa	ggcttcacca	gtggatcaac	4620
gaggactgct	ccacaccata	ctccggctcg	taactaaaaa	atgtttggga	ttggatatgc	4680
accontattoa	ctgatttcaa	gacctggctc	cactccaacc	tectagggg	attagaaaaa	4740
atacattat	totastatas	acceggeee	ageceaage	ccccgccgcg	accectegea	
gececeeee	ecccatgtca	acgtgggtac	aagggagtet	ggegggega	eggeateatg	4800
caaaccacct	geceatgtgg	agcacagatc	accggacatg	tgaaaaacgg	ttccatgagg	4860
atcgtggggc	ctaggacctg	tagtaacacg	tggcatggaa	cattccccat	taacgcgtac	4920
accacgggcc	cctgcacgcc	ctccccggcg	ccaaattatt	ctagggcgct	gtggcgggtg	4980
gctgctgagg	agtacgtgga	ggttacgcgg	gtgggggatt	tccactacqt	gacgggcatg	5040
accactgaca	acqtaaaqtq	cccgtgtcag	attecaacee	ccgaattett	cacagaagtg	5100
gatggggtgc	ggttgcacag	gtacgctcca	acatacasac	ccctcctaca	accadanta	5160
acattectee	teaaaataaa	tasstaata	gegegedade	ccccccacg	ggaggaggcc	
acacccctgg	ccgggcccaa	tcaatacctg	grigggread	ageteecatg	cgageeegaa	5220
ccggacgtag	cagigeteae	ttccatgctc	accgacccct	cccacattac	ggcggagacg	5280
gctaagcgta	ggctggccag	gggatctccc	ccctccttgg	ccagctcatc	agctatccag	5340
ctgtctgcgc	cttccttgaa	ggcaacatgc	actacccgtc	atgactcccc	ggacgctgac	5400
ctcatcgagg	ccaacctcct	gtggcggcag	gagatgaaca	ggaacatcac	ccgcataaaa	5460
tcagaaaata	aggtagtaat	tttggagtct	ttcgagccgc	tccaagcgga	ggaggatgag	5520
aggaagtat	ccattccaca	ggagatectg	cocacataca		tragarata	5580
cccatatooo		ttacaacce	coactatte-	agaaaccccc	ccyaycyacy	
tacatacata	and the transfer of	ttacaaccct	LLactyctag	ayteetggaa	ggacccggac	5640
anton	caguggtaca	cgggtgtcca	rrgccgcctg	ccaaggcccc	tccgatacca	5700
ccccacgga	ggaagaggac	ggttgtcctg	tcagaatcta	ccgtgtcttc	tgccttggcg	5760
gagetegeea	caaagacctt	cggcagctcc	gaatcgtcgg	ccgtcgacag	cggcacggca	5820

acggcetete etgaccagee etcegacgae ggegacgegg gatecgacgt tgagtegtae 5880 tectecatge ecceettga gggggageeg ggggateeeg ateteagega egggtettgg 5940 totacogtaa gogaggaggo tagtgaggac gtogtotgot gotogatgto otacacatgg 6000 acaggegeee tgateaegee atgegetgeg gaggaaaeea agetgeeeat caatgeaetg 6060 ageaactett tgeteegtea ceacaacttg gtetatgeta caacateteg cagegeaage 6120 ctgcggcaga agaaggtcac ctttgacaga ctgcaggtcc tggacgacca ctaccgggac 6180 gtgctcaagg agatgaaggc gaaggcgtcc acagttaagg ctaaacttct atccgtggag 6240 gaagcetgta agetgacgee cecacatteg gecagateta aatttggeta tggggeaaag gaegteegga acetateeag caaggeegtt aaceacatee geteegtgtg gaaggaettg 6300 6360 ctggaagaca ctgagacacc aattgacacc accatcatgg caaaaaatga ggttttctgc 6420 gtccaaccag agaagggggg ccgcaagcca gctcgcctta tcgtattccc agatttgggg 6480 gttcgtgtgt gcgagaaaat ggccctttac gatgtggtct ccaccctccc tcaggccgtg 6540 atgggetett catacggatt ccaatactet cetggacage gggtegagtt cetggtgaat 6600 gcctggaaag cgaagaaatg ccctatgggc ttcgcatatg acacccgctg ttttgactca 6660 acggtcactg agaatgacat ccgtgttgag gagtcaatct accaatgttg tgacttggcc 6720 cccgaagcca gacaggccat aaggtcgctc acagagcggc tttacatcgg gggccccctg 6780 actaatteta aagggeagaa etgeggetat egeeggtgee gegegagegg tgtaetgaeg 6840 accagetgeg gtaataceet cacatgttae ttgaaggeeg etgeggeetg tegagetgeg 6900 aageteeagg aetgeaegat getegtatge ggagaegaee ttgtegttat etgtgaaage 6960 geggggacee aagaggacga ggegageeta egggeettea eggaggetat gaetagatae 7020 7080 tetgecece etggggacee geceaaacea gaataegaet tggagttgat aacateatge tectecaatg tgteagtege geacgatgea tetggeaaaa gggtgtaeta teteaceegt 7140 gaccccacca cccccttgc gcgggctgcg tgggagacag ctagacacac tccagtcaat 7200 tectggetag geaacateat catgtatgeg eccacettgt gggeaaggat gateetgatg acteatteet tetecateet tetageteag gaacaacttg aaaaageeet agattgteag 7260 7320 atctacgggg cctgttactc cattgagcca cttgacctac ctcagatcat tcaacgactc 7380 catggcctta gcgcattttc actccatagt tactctccag gtgagatcaa tagggtggct 7440 tcatgcctca ggaaacttgg ggtaccgccc ttgcgagtct ggagacatcg ggccagaagt 7500 7560 gtccgcgcta ggctactgtc ccaggggggg agggctgcca cttgtggcaa gtacctcttc aactgggcag taaggaccaa gctcaaactc actccaatcc cggctgcgtc ccagttggat 7620 ttatccagct ggttcgttgc tggttacagc gggggagaca tatatcacag cctgtctcgt 7680 7740 gcccgacccc gctggttcat gtggtgccta ctcctacttt ctgtaggggt aggcatctat 7800 ctactcccca accgatgaac ggggacctaa acactccagg ccaataggcc atcctgtttt 7860 tttttcctct ttttttcctt ttctttcctt tggtggctcc atcttagccc tagtcacggc 7920 tagetgtgaa aggteegtga geegettgae tgeagagagt getgataetg geetetetge 7980 8040 agatcaagta ctcctgcagg cgcgccacta gtgggaatac gcggggtatg ccgcgtttta gcatattgac gacccaattc tcatgtttga cagcttatca tcgataagct ttaatgcggt 8100 8160 agtttatcac agttaaattg ctaacgcagt caggcaccgt gtatgaaatc taacaatgcg ctcatcgtca tcctcggcac cgtcaccctg gatgctgtag gcataggctt ggttatgccg gtactgccgg gcctcttgcg ggatatcgtc cattccgaca gcatcgccag tcactatggc 8220 8280 gtgctgctag cgctatatgc gttgatgcaa tttctatgcg cacccgttct cggagcactg 8340 teegaceget ttggeegeeg eccagteetg etegettege taettggage cactategae 8400 tacgcgatca tggcgaccac acccgtcctg tggatcctct acgccggacg catcgtggcc 8460 8520 ggcatcaccg gcgccacagg tgcggttgct ggcgcctata tcgccgacat caccgatggg gaagateggg etegecaett egggeteatg agegettgtt teggegtggg tatggtggea 8580 ggccccgtgg ccgggggact gttgggcgcc atctccttgc atgcaccatt ccttgcggcg 8640 geggtgetea aeggeeteaa ectaetaetg ggetgettee taatgeagga gtegeataag ggagagegte gaeegatgee ettgagagee tteaaceeag teageteett eeggtgggeg 8700 8760 cggggcatga ctatcgtcgc cgcacttatg actgtcttct ttatcatgca actcgtagga 8820 caggtgccgg cagcgctctg ggtcattttc ggcgaggacc gctttcgctg gagcgcgacg 8880 atgateggee tgtegettge ggtattegga atettgeaeg ceetegetea ageettegte 8940 actggtcccg ccaccaaacg tttcggcgag aagcaggcca ttatcgccgg catggcgcc 9000 gacgcgctgg gctacgtctt gctggcgttc gcgacgcgag gctggatggc cttccccatt atgattcttc tcgcttccgg cggcatcggg atgcccgcgt tgcaggccat gctgtccagg 9060 9120 caggtagatg acgaccatca gggacagctt caaggatcgc tcgcggctct taccagccta 9180 acttcgatca ctggaccgct gatcgtcacg gcgatttatg ccgcctcggc gagcacatgg aacgggttgg catggattgt aggcgccgcc ctataccttg tctgcctccc cgcgttgcgt 9240 9300 cgcggtgcat ggagccgggc cacctcgacd tgaatggaag ccggcggcac ctcgctaacg 9360 9420 gattcaccac tccaagaatt ggagccaatc aattcttgcg gagaactgtg aatgcgcaaa 9480 ccaaccettg gcagaacata tccatcgcgt ccgccatctc cagcagccgc acgcggcgca tctcgggcag cgttgggtcc tggccacggg tgcgcatgat cgtgctcctg tcgttgagga 9540 cccggctagg ctggcggggt tgccttactg gttagcagaa tgaatcaccg atacgcgagc 9600 9660 gaacgtgaag cgactgctgc tgcaaaacgt ctgcgacctg agcaacaaca tgaatggtct 9720 teggttteeg tgtttegtaa agtetggaaa egeggaagte agegeeetge accattatgt teeggatetg categeagga tgetgetgge taccetgtgg aacacetaca tetgtattaa 9780

cgaagcgctg	gcattgaccc	tgagtgattt	ttctctggtc	ccgccgcatc	cataccgcca	9840
gttgtttacc	ctcacaacgt	tccagtaacc	gggcatgttc	atcatcagta	acccgtatcg	9900
tgagcatcct	ctctcgtttc	atcggtatca	ttacccccat	gaacagaaat	tcccccttac	9960
acggaggcat	caagtgacca	aacaggaaaa	aaccgccctt	aacatggccc	gctttatcag	10020
		tggagaaact				10080
catctgtgaa	tcgcttcacg	accacgctga	tgagctttac	cgcagctgcc	tcgcgcgttt	10140
		tctgacacat				10200
		gacaagcccg				10260
		agtcacgtag				10320
		actgagagtg				10380
tgcgtaagga	gaaaataccg	catcaggcgc	tcttccgctt	cctcgctcac	tgactcgctg	10440
cgctcggtcg	ttcggctgcg	gcgagcggta	tcagctcact	caaaggcggt	aatacggtta	10500
		cgcaggaaag				10560
aggaaccgta	aaaaggccgc	gttgctggcg	tttttccata	ggctccgccc	ccctgacgag	10620
catcacaaaa	atcgacgctc	aagtcagagg	tggcgaaacc	cgacaggact	ataaagatac	10680
caggcgtttc	cccctggaag	ctccctcgtg	cgctctcctg	ttccgaccct	gccgcttacc	10740
ggatacctgt	ccgcctttct	cccttcggga	agcgtggcgc	tttctcatag	ctcacgctgt	10800
		ggtcgttcgc				10860
gttcagcccg	accgctgcgc	cttatccggt	aactatcgtc	ttgagtccaa	cccggtaaga	10920
cacgacttat	cgccactggc	agcagccact	ggtaacagga	ttagcagagc	gaggtatgta	10980
ggcggtgcta	cagagttctt	gaagtggtgg	cctaactacg	gctacactag	aaggacagta	11040
tttggtatct	gcgctctgct	gaagccagtt	accttcggaa	aaagagttgg	tagctcttga	11100
tccggcaaac	aaaccaccgc	tggtagcggt	ggtttttttg	tttgcaagca	gcagattacg	11160
cgcagaaaaa	aaggatctca	agaagatcct	ttgatctttt	ctacggggtc	tgacgctcag	11220
		agggattttg				11280
tagatccttt	tctagataat	acgactcact	ata			11313

<210> 3 <211> 11313 <212> DNA <213> Artificial Sequence <220> <223> Plasmid

<400> 3

gccagccccc gattgggggc gacactccac catagatcac tcccctgtga ggaactactg 60 tetteaegea gaaagegtet agecatggeg ttagtatgag tgtegtgeag eeteeaggae 120 ccccctccc gggagagcca tagtggtctg cggaaccggt gagtacaccg gaattgccag 180 gacgaccggg teetttettg gateaacccg etcaatgeet ggagatttgg gegtgeecce 240 gcgagactgc tagccgagta gtgttgggtc gcgaaaggcc ttgtggtact gcctgatagg 300 gtgcttgcga gtgccccggg aggtctcgta gaccgtgcac catgagcacg aatcctaaac ctcaaagaaa aaccaaaggg cgcgccatga ttgaacaaga tggattgcac gcaggttctc 360 420 eggeegettg ggtggagagg etattegget atgactggge acaacagaca ateggetget 480 ctgatgccgc cgtgttccgg ctgtcagcgc aggggcgccc ggttcttttt gtcaagaccg 540 600 acctgtccgg tgccctgaat gaactgcagg acgaggcagc gcggctatcg tggctggcca 660 cgacgggcgt tccttgcgca gctgtgctcg acgttgtcac tgaagcggga agggactggc tgctattggg cgaagtgccg gggcaggatc tcctgtcatc tcaccttgct cctgccgaga 720 aagtatccat catggctgat gcaatgcggc ggctgcatac gcttgatccg gctacctgcc 780 cattegacea ceaagegaaa categeateg agegageaeg tacteggatg gaageeggte ttgtegatea ggatgatetg gacgaagage ateaggget egegeeagee gaactgtteg 840 900 ccaggeteaa ggegegeatg cccgaeggeg aggatetegt egtgaeceat ggegatgeet 960 gcttgccgaa tatcatggtg gaaaatggcc gcttttctgg attcatcgac tgtggccggc 1020 tgggtgtggc ggaccgctat caggacatag cgttggctac ccgtgatatt gctgaagagc 1080 ttggcggcga atgggctgac cgcttcctcg tgctttacgg tatcgccgct cccgattcgc 1140 agegeatege ettetatege ettettgaeg agttettetg agtttaaaca gaecacaaeg 1200 gtttccctct agcgggatca attccgcccc tctccctccc cccccctaa cgttactggc 1260 cgaagccgct tggaataagg ccggtgtgcg tttgtctata tgttattttc caccatattg 1320 ccgtcttttg gcaatgtgag ggcccggaaa cctggccctg tcttcttgac gagcattcct 1380 aggggtcttt cccctctcgc caaaggaatg caaggtctgt tgaatgtcgt gaaggaagca 1440 gttcctctgg aagcttcttg aagacaaaca acgtctgtag cgaccctttg caggcagcgg 1500 aaccccccac ctggcgacag gtgcctctgc ggccaaaagc cacgtgtata agatacacct 1560 gcaaaggcgg cacaacccca gtgccacgtt gtgagttgga tagttgtgga aagagtcaaa 1620 tggctctcct caagcgtatt caacaagggg ctgaaggatg cccagaaggt accccattgt 1680

atgggatctg	atctggggcc	tcggtgcaca	toctttacat	gtgtttagtc	gaggttaaaa	1740
		cacggggacg				1800
ategerate	ttaggggta	chaggagacg	Lygicalous	tosttaaata	coacacacc	
		ctcccaacag				1860
		gaaccaggtc				1920
acacaatctt	tectggegae	ctgcgtcaat	ggcgtgtgtt	ggactgtcta	tcatggtgcc	1.980
		cccaaagggc				2040
		agcgccccc				2100
		ggtcacgagg				2160
ggcgacagca	gggggagcct	actctcccc	aggcccgtct	cctacttgaa	gggctcttcg	2220
ggcggtccac	tgctctgccc	ctcggggcac	gctgtgggca	tettteggge	taccatatac	2280
		ggtggacttt				2340
		caactcgtcc				2400
geecatetae	acgecectae	tggtagcggc	aagagcacta	aggtgccggc	tgcgtatgca	2460
gcccaagggt	ataaggtgct	tgtcctgaac	ccgtccgtcg	ccgccaccct	aggtttcggg	2520
gcgtatatgt	ctaaggcaca	tggtatcgac	cctaacatca	gaaccggggt	aaggaccatc	2580
		gtactccacc				2640
		cataatatgt				2700
accorgggca	Leggeaeagt	cctggaccaa	gcggagacgg	ctggagegeg	acteguegeg	2760
		gggatcggtc				2820
gctctgtcca	gcactggaga	aatccccttt	tatggcaaag	ccatccccat	cgagaccatc	2880
		tttctgccat				2940
		caatgctgta				3000
		cattgtcgta				3060
ggcgatttcg	actcagtgat	cgactgcaat	acatgtgtca	cccagacagt	cgacttcagc	3120
ctggacccga	ccttcaccat	tgagacgacg	accgtgccac	aagacgcggt	gtcacgctcg	3180
		taggggcagg				3240
		cgattcctcg				3300
		cgccgagacc				3360
ccagggttgc	ccgtctgcca	ggaccatctg	gagttctggg	agagcgtctt	tacaggcctc	3420
acccacatag	acgcccattt	cttgtcccag	actaagcagg	caggagacaa	cttcccctac	3480
		ggtgtgcgcc				3540
		acggctaaag				3600
		aaacgaggtt				3660
atggcatgca	tgtcagctga	cctggaggtc	gtcacgagca	cctgggtgct	ggtaggcgga	3720
gtcctagcag	ctctggccgc	gtattgcctg	acaacaggca	gcgtggtcat	tgtgggcagg	3780
		ggccatcatt				3840
		ctcacacctc				3900
		aatcgggttg				3960
		caagtggcgg				4020
tggaatttca	tcagcgggat	acaatattta	gcaggcttgt	ccactctgcc	tggcaacccc	4080
gcgatagcat	cactgatggc	attcacagcc	tctatcacca	gcccgctcac	cacccaacat	4140
		ggggggatgg				4200
						4260
		cggcatcgct				
		ggcaggttat				4320
tttaaggtca	tgagcggcga	gatgccctcc	accgaggacc	tggttaacct	actccctgct	4380
atcctctccc	ctggcgccct	agtcgtcggg	gtcgtgtgcg	cagcgatact	gcgtcggcac	4440
		tgtgcagtgg				4500
		gcactatgtg				4560
ggcaaccacg	atactatta	gouccutgeg	atastassas	acgeegeage	atastass	4620
cagacccccc	Ctagtettae	catcactcag	Cigcigaaga	ggetteacea	grggarcaac	
		ctccggctcg				4680
acggtgttga	ctgatttcaa	gacctggctc	cagtccaagc	tcctgccgcg	attgccggga	4740
gtccccttct	tctcatgtca	acgtgggtac	aagggagtct	gacagaacaa	cggcatcatg	4800
		agcacagatc				4860
						4920
		tagtaacacg				
accaegggee	cetgeaegee	ctccccggcg	ccaaattatt	ctagggcgct	araacaaara	4980
		ggttacgcgg				5040
		cccgtgtcag				5100
gatggggtgc	ggttgcacag	gtacgctcca	gcgtgcaaac	ccctcctaca	ggaggaggtg	5160
		tcaatacctg				5220
						-
		ttccatgctc				5280
gctaagcgta	ggctggccag	gggatctccc	ccctccttgg	ccagctcatc	agctatccag	5340
ctgtctgcgc	cttccttgaa	ggcaacatgc	actacccgtc	atgactcccc	ggacgctgac	5400
		gtggcggcag				5460
tcagaaaata	aggtagtaat	tttggagtct	ttcgagccgc	tccaagcgga	ggaggatgag	5520
adddaadtat		ggagatcctg		conagogga	+casacasta	5580
aggguageat	anagarara	ttagaccccy	oggaggttta	ggaaattucc	agegaty	
cccacacygg	cacyceegga	ttacaaccct	ceactgttag	agreerggaa	ggacccggac	5640

tacgtccctc	cagtggtaca	cgggtgtcca	ttqccqcctg	ccaaggcccc	tccgatacca	5700
cctccacqga	ggaagaggac	ggttgtcctg	tcagaatcta	ccatatette	tacettaaca	5760
gagetegeea	caaagacctt	cggcagctcc	gaatcgtcgg	ccatcaacaa	cddcscddcs	5820
acggcctctc	ctgaccagcc	ctccgacgac	adcascacaa	gatecgaegt	taaataataa	5880
tectecatee	cccccttga	ääääääääccä	ggcgacgcgg	atctcacca	agagtagtac	5940
tctaccotaa	acasacaaa	tagtgagaag	gtggaccccg	actecagegg		
acadacadad	tastasaaaa	tagtgaggac	gregeeger	getegatget	cracacatgg	6000
acaggegeee	tgattacgtt	atgcgctgcg	gaggaaacca	agetgeeeat	caatgcactg	6060
		ccacaacttg				6120
ccgcggcaga	agaaggtcac	ctttgacaga	ctgcaggtcc	tggacgacca	ctaccgggac	6180
grgcrcaagg	agatgaaggc	gaaggcgtcc	acagttaagg	ctaaacttct	atccgtggag	6240
gaagcctgta	agctgacgcc	cccacattcg	gccagatcta	aatttggcta	tggggcaaag	6300
gacgtccgga	acctatccag	caaggccgtt	aaccacatcc	gctccgtgtg	gaaggacttg	6360
ctggaagaca	ctgagacacc	aattgacacc	accatcatgg	caaaaaatga	ggttttctgc	6420
gtccaaccag	agaagggggg	ccgcaagcca	gctcgcctta	tcgtattccc	agatttgggg	6480
gttcgtgtgt	gcgagaaaat	ggccctttac	gatgtggtct	ccaccctccc	tcaggccgtg	6540
atgggctctt	catacggatt	ccaatactct	cctggacagc	gggtcgagtt	cctqqtqaat	6600
gcctggaaag	cgaagaaatg	ccctatgggc	ttcqcatatq	acacccacta	ttttgactca	6660
acggtcactg	agaatgacat	ccgtgttgag	gagtcaatct	accaatgttg	tgacttggcc	6720
cccgaagcca	gacaggccat	aaggtcgctc	acagagegge	tttacatcgg	agaccccta	6780
actaattcta	aaggggagaa	ctgcggctat	caccaatacc	acacacacaa	tatactasca	6840
accagetgeg	gtaataccct	cacatgttac	ttaaaaaca	ctacaaacta	tegracegacg	6900
		gctcgtatgc				6960
teteeeee	aagaggacga	ggcgagccta	egggeettea	cggaggetat	gactagatac	7020
tetgeeeee	tetagggaccc	gcccaaacca	gaatacgact	tggagttgat	aacatcatgc	7080
cectecaatg	tgtcagtcgc	gcacgatgca	tctggcaaaa	gggtgtacta	tctcacccgt	7140
gaccccacca	ccccccttgc	acaaactaca	tgggagacag	ctagacacac	tccagtcaat	7200
tcctggctag	gcaacatcat	catgtatgcg	cccaccttgt	gggcaaggat	gatcctgatg	7260
actcatttct	tctccatcct	tctagctcag	gaacaacttg	aaaaagccct	agattgtcag	7320
atctacgggg	cctgttactc	cattgagcca	cttgacctac	ctcagatcat	tcaacgactc	7380
catggcctta	gcgcattttc	actccatagt	tactctccag	gtgagatcaa	tagggtggct	7440
tcatgcctca	ggaaacttgg	ggtaccgccc	ttgcgagtct	ggagacatcg	ggccagaagt	7500
gtccgcgcta	ggctactgtc	ccaggggggg	agggctgcca	cttgtggcaa	gtacctcttc	7560
aactgggcag	taaggaccaa	gctcaaactc	actccaatcc	cggctgcgtc	ccaqttqqat	7620
ttatccagct	ggttcgttgc	tggttacagc	gggggagaca	tatatcacag	cctatctcat	7680
gcccgacccc	gctggttcat	gtggtgccta	ctcctacttt	ctataggggt	aggcatctat	7740
ctactcccca	accgatgaac	ggggacctaa	acactccagg	ccaataggcc	atcctgtttt	7800
tttccctttt	ttttttttt	tttttttt	tttttttt	tttttttt	tteteettt	7860
tttttcctct	ttttttcctt	ttctttcctt	tagtagetee	atcttagccc	tagtcacggc	7920
tagctgtgaa	aggtccgtga	gccgcttgac	tacagagagt	actastacta	acctatatac	7980
agatcaagta	ctcctgcagg	cgcgccacta	atagagaga	geegaeaeeg	ccacatttta	8040
gcatattgac	gacccaattc	tcatgtttga	caccttatca	togataaget	ttaataaaat	8100
antttatcac	acttacattc	ctaacgcagt	cagcccacca	gtatgaaget	taacgegge	8160
ctcatcatca	testesses	ccaacgcagc	caggeacege	graryaaare	caacaacgeg	
cteategeea	gastattaaa	cgtcaccctg	gatgetgtag	geataggett	ggttatgeeg	8220
gractgeegg	geetettgeg	ggatatcgtc	catteegaea	gcatcgccag	ccactatggc	8280
graciaciag	egetatatge	gttgatgcaa	tttctatgcg	caccegttet	cggagcactg	8340
teegaeeget.	rrggccgccg	cccagtcctg	ctcgcttcgc	tacttggagc	cactatcgac	8400
tacgegatea	tggcgaccac	accegteetg	tggatectet	acgccggacg	catcgtggcc	8460
ggcatcaccg	gcgccacagg	tgcggttgct	ggcgcctata	tcgccgacat	caccgatggg	8520
gaagatcggg	ctcgccactt	cgggctcatg	agcgcttgtt	tcggcgtggg	tatggtggca	8580
ggccccgtgg	ccgggggact	gttgggcgcc	atctccttgc	atgcaccatt	ccttgcggcg	8640
gcggtgctca	acggcctcaa	cctactactg	ggctgcttcc	taatgcagga	gtcgcataag	8700
ggagagcgtc	gaccgatgcc	cttgagagcc	ttcaacccag	tcagctcctt	ccggtgggcg	8760
cggggcatga	ctatcgtcgc	cgcacttatg	actgtcttct	ttatcatgca	actcgtagga	8820
caggtgccgg	cagcgctctg	ggtcattttc	ggcgaggacc	gctttcgctg	gagegegaeg	8880
atgatcggcc	tgtcgcttgc	ggtattcgga	atcttgcacg	ccctcqctca	agcettegte	8940
actggtcccg	ccaccaaacg	tttcggcgag	aaqcaqqcca	ttatcqccqq	catqqcqqcc	9000
gacgcgctgg	gctacqtctt	gctggcgttc	acacacaaa	gctggatggc	cttccccatt	9060
atgattcttc	tcacttccaa	cggcatcggg	atgcccgcgt	tacagaccat	gctgtccagg	9120
caggtagatg	acqaccatca	gggacagctt	caaggat.cgc	teacaactet	taccaccta	9180
acttcgatca	ctggaccgct	gatcgtcacg	acastttata	ccacctccac	gaggagatea	9240
aacqqqttqq	catogattot	aggcgccgcc	ctatecette	totactac		9300
cacaatacat	adadcadaa	cacctcgacc	trastrassa	agagagagaga	atagetase-	9360
gattcaccac	+ccaacaa++	ggaggaata	anttattar-	ceggeggeae	ortgoraacg	
descerette.	ccaagaatt	ggagccaatc	aacccccgcg	yayaaccgcg	aacycycaaa	9420
teterrere	grayaacata	tccatcgcgt	togecatete	cagcagccgc	acgcggcgca	9480
ccccgggcag	chagagetee	tggccacggg	cycycatgat	egtgeteetg	ccgccgagga	9540
cccggccagg	craacaaaat	tgccttactg	yctagcagaa	tgaatcaccg	acacgcgagc	9600

					A	
				agcaacaaca		9660
				agcgccctgc		9720
				aacacctaca	_	9780
				ccgccgcatc		9840
gttgtttacc	ctcacaacgt	pocadpaacc	ggggatgtto	atcatcagta	accegtateg	5500
tgagcatcct	ctctcgtttc	atcggtatca	ttacccccat	gaacagaaat	tcccccttac	9960
acggaggcat	caagtgacca	aacaggaaaa	aaccgccctt	aacatggccc	gctttatcag	10020
aagccagaca	ttaacgcttc	tggagaaact	caacgagctg	gacgcggatg	aacaggcaga	10080
				cgcagctgcc		10140
				gagacggtca		10200
				tcagcgggtg		10260
				gtgtatactg		10320
				ggtgtgaaat		10380
				cctcgctcac		10440
				caaaggcggt		10500
				caaaaggcca		10560
_				ggctccgccc		10620
				cgacaggact		10680
				ttccgaccct		10740
				tttctcatag		10800
				gctgtgtgca		10860
				ttgagtccaa		10920
				ttagcagagc		10980
_				gctacactag		11040
				aaagagttgg		11100
				tttgcaagca		11160
				ctacggggtc		11220
				tatcaaaaag		11280
		acgactcact			3-2220000	11313
	gabaac					

<210> 4 <211> 11313 <212> DNA

<213> Artificial Sequence

<220> <223> Plasmid

<400> 4

gccagccccc gattgggggc gacactccac catagatcac tcccctgtga ggaactactg 60 120 tetteaegea gaaagegtet ageeatggeg ttagtatgag tgtegtgeag cetecaggae 180 ccccctccc gggagagcca tagtggtctg cggaaccggt gagtacaccg gaattgccag 240 gacgaccggg teetttettg gateaacccg etcaatgeet ggagatttgg gegtgeecce gcgagactgc tagccgagta gtgttgggtc gcgaaaggcc ttgtggtact gcctgatagg 300 360 gtgcttgcga gtgccccggg aggtctcgta gaccgtgcac catgagcacg aatcctaaac ctcaaagaaa aaccaaaggg cgcgccatga ttgaacaaga tggattgcac gcaggttctc 420 eggeegettg ggtggagagg etattegget atgaetggge acaacagaca ateggetget 480 ctgatgccgc cgtgttccgg ctgtcagcgc aggggcgccc ggttcttttt gtcaagaccg 540 600 acctgtccgg tgccctgaat gaactgcagg acgaggcagc gcggctatcg tggctggcca cgacgggcgt tccttgcgca gctgtgctcg acgttgtcac tgaagcggga agggactggc 660 tgctattggg cgaagtgccg gggcaggatc tcctgtcatc tcaccttgct cctgccgaga 720 780 840 900 ccaggetcaa ggegegeatg eccgaeggeg aggatetegt egtgaeceat ggegatgeet 960 gettgeegaa tateatggtg gaaaatggee gettttetgg atteategae tgtggeegge 1020 tgggtgtggc ggaccgctat caggacatag cgttggctac ccgtgatatt gctgaagagc 1080 ttggcggcga atgggctgac cgcttcctcg tgctttacgg tatcgccgct cccgattcgc 1140 agegeatege ettetatege ettettgaeg agttettetg agtttaaaca gaccacaacg 1200 gtttccctct agcgggatca attccgccc tctccctcc cccccctaa cgttactggc 1260 cgaagccgct tggaataagg ccggtgtgcg tttgtctata tgttattttc caccatattg 1320 cegtettttg geaatgtgag ggeeeggaaa cetggeeetg tettettgae gageatteet 1380 aggggtettt eccetetege caaaggaatg caaggtetgt tgaatgtegt gaaggaagea 1440 gttcctctgg aagcttcttg aagacaaaca acgtctgtag cgaccctttg caggcagcgg 1500

aacccccac	ctggcgacag	gtgcctctgc	ggccaaaagc	cacgtgtata	agatacacct	1560
				tagttgtgga		1620
				cccagaaggt		1680
atgggatctg	atctggggcc	tcggtgcaca	tgctttacat	gtgtttagtc	gaggttaaaa	1740
				ttqaaaaaca		1800
				tacttggctg		1860
				tccaagtggt		1920
				ggactgtcta		1980
				aaatgtacac		2040
				ccttgacacc tcattccggt		2100 2160
				cctacttgaa		2220
				tctttcgggc		2280
				agtctatggg		2340
				taccgcagac		2400
				aggtgccggc		2460
				ccgccaccct		2520
gcgtatatgt	ctaaggcaca	tggtatcgac	cctaacatca	gaaccggggt	aaggaccatc	2580
				ttcttgccga		2640
				actcaactga		2700
				ctggagcgcg		2760
				atccaaacat		2820
				ccatccccat		2880
				aatgtgatga		2940
				ggggccttga		3000 3060
				ctctaatgac cccagacagt		3120
				aagacgcggt		3180
				acaggtttgt		3240
				agtgctatga		3300
				tgcgggctta		3360
				agagcgtctt		3420
				caggagacaa		3480
				ctccacctcc		3540
caaatgtgga	agtgtctcat	acggctaaag	cctacgctgc	acgggccaac	gcccctgctg	3600
				accccataac		3660
				cctgggtgct		3720
				gcgtggtcat		3780
				aagtctttta		3840 3900
				aacggggaat		3960
				ccaccaagca ccttctgggc		4020
				ccactctgcc		4080
				gcccgctcac		4140
				aacttgctcc		4200
				ttggcagcat		4260
				tggcaggcgc		4320
				tggttaacct		4380
				cagcgatact		4440
				tgatagcgtt		4500
				acgctgcagc		4560
				ggcttcacca		4620
				atgtttggga		4680
				tectgeegeg		4740 4800
				ggcggggcga		4860
				tgaaaaacgg		4920
				cattccccat ctagggcgct		4980
				tccactacgt		5040
accactgaca	acqtaaaqtq	cccatatcaa	qttccaacca	ccgaattctt	cacagaagtg	5100
				ccctcctacg		5160
				agctcccatg		5220
				cccacattac		5280
gctaagcgta	ggctggccag	gggatctccc	ccctccttgg	ccagctcatc	agctatccag	5340
ctgtctgcgc	cttccttgaa	ggcaacatgc	actacccgtc	atgactcccc	ggacgctgac	5400
ctcatcgagg	ccaacctcct	gtggcggcag	gagatgggcg	ggaacatcac	ccgcgtggag	5460

tcagaaaata	aggtagtaat	tttggagtct	ttcgagccgc	tccaagcgga	ggaggatgag	5520
agggaagtat	ccgttccggc	ggagatcctg	cggaggtcca	ggaaattccc	tcgagcgatg	5580
cccatatggg	cacgcccgga	ttacaaccct	ccactgttag	agtcctggaa	ggacccqqac	5640
tacgtccctc	cagtggtaca	cgggtgtcca	ttgccgcctg	ccaaggcccc	tccgatacca	5700
cctccacgga	ggaagaggac	ggttgtcctg	tcagaatcta	ccgtgtcttc	tgccttggcg	5760
gagctcgcca	caaagacctt	cggcagctcc	gaatcgtcgg	ccgtcgacag	cggcacggca	5820
acggcctctc	ctgaccagcc	ctccgacgac	ggcgacgcgg	gatccgacgt	tgagtcgtac	5880
tectecatge	cccccttga	gggggagccg	ggggatcccg	atctcagcga	cgggtcttgg	5940
tctaccgtaa	gcgaggaggc	tagtgaggac	gtcgtctgct	gctcgatgtc	ctacacatgg	6000
acaggcgccc	tgatcacgcc	atgcgctgcg	gaggaaacca	agctgcccat	caatgcactg	6060
agcaactctt	tgctccgtca	ccacaacttg	gtctatgcta	caacatctcg	cagcgcaagc	6120
ctgcggcaga	agaaggtcac	ctttgacaga	ctgcaggtcc	tggacgacca	ctaccgggac	6180
grgereaagg	agatgaagge	gaaggcgtcc	acagttaagg	ctaaacttct	atccgtggag	6240
gaageetgta	agetgaegee	cccacattcg	gccagatcta	aatttggcta	tggggcaaag	6300
gacgcccgga	accuaticag	caaggeegee	aaccacatcc	gctccgtgtg	gaaggacttg	6360
ctggaagaca	acasacaca	aactgacacc	accatcatgg	caaaaaatga	ggttttetge	6420
atteatatat	agaagggggg	ccgcaageca	getegeetta	tcgtattccc	agatttgggg	6480
atgggctctt	catacooatt	ggccctctac	gatgtggttt	ccaccctccc gggtcgagtt	caggeegeg	6540 6600
acctagaaaa	caeacagata	ccctatcccc	ttcccatatc	acacccgctg	ttttaasta	
acootcacto	agaatgacat	ccatattasa	gagtcaatct	accaatgttg	taacttaaaa	6660 6720
cccgaagcga	gacaggccat	aaggtcgctc	acadadcoc	tttacatcgg	agacccggta	6780
actaattcta	aagggcagaa	ctgcggctat	caccaatacc	gcgcgagcgg	totactoaco	6840
accagetgeg	gtaataccct	cacatottac	ttgaaggccg	ctgcggcctg	tcaaactaca	6900
aagctccagg	actgcacgat	gctcgtatgc	adadacdacc	ttgtcgttat	ctgtgaaagc	6960
gcggggaccc	aaqaqqacqa	ggcgagccta	cgggccttca	cggaggctat	gactagatac	7020
tetgecece	ctggggaccc	gcccaaacca	gaatacgact	tggagttgat	aacatcatoc	7080
tcctccaatg	tgtcagtcgc	gcacgatgca	tctggcaaaa	gggtgtacta	tctcacccqt	7140
gaccccacca	cccccttgc	gcgggctgcg	tgggagacag	ctagacacac	tccaqtcaat	7200
tcctggctag	gcaacatcat	catgtatgcg	cccaccttgt	gggcaaggat	gatcctgatg	7260
actcatttct	tctccatcct	tctagctcag	gaacaacttg	aaaaagccct	agattgtcag	7320
atctacgggg	cctgttactc	cattgagcca	cttgacctac	ctcagatcat	tcaacgactc	7380
catggcctta	gcgcattttc	actccatagt	tactctccag	gtgagatcaa	tagggtggct	7440
tcatgcctca	ggaaacttgg	ggtaccgccc	ttgcgagtct	ggagacatcg	ggccagaagt	7500
gtccgcgcta	ggctactgtc	ccaggggggg	agggctgcca	cttgtggcaa	gtacctcttc	7560
aactgggcag	taaggaccaa	gctcaaactc	actccaatcc	cggctgcgtc	ccagttggat	7620
ttatccagct	ggttcgttgc	tggttacagc	gggggagaca	tatatcacag	cctgtctcgt	7680
gcccgacccc	gctggttcat	gtggtgccta	ctcctacttt	ctgtaggggt	aggcatctat	7740
ctactcccca	accgatgaac	ggggacctaa	acactccagg	ccaataggcc	atcctgtttt	7800
tttttatt	ttttttttt			tttttttt	ttctcctttt	7860
taggtgtgaa	acat acat a	ccccccc	tggtggetee	atcttagccc	tagtcacggc	7920
agetgegaa	ctcctcccc	geegettgae	cgcagagagc	gctgatactg	geetetetge	7980
gattattgac	decceastre	tgatgtttga	grgggaarac	gcggggtatg	ttastaaat	8040
agtttatcac	acttaaattc	ctaacgccagt	cagettatea	tcgataagct gtatgaaatc	taacgegge	8100 8160
ctcatcatca	tecteggeac	catcaccata	gatgctgtag	gcataggctt	caacaacycy	8220
gtactgccgg	acctettaca	ggatatcgtc	cattccgaca	gcatcgccag	tractator	8280
gtgctgctag	coctatatoc	gttgatgcaa	tttctatgcg	cacccgttct	cagaggagta	8340
tccgaccgct	ttggccgccg	cccaqtcctq	ctcacttcac	tacttggagc	cactatcgac	8400
tacgcgatca	tggcgaccac	acceptecta	tggatcctct	acgccggacg	catcataacc	8460
ggcatcaccg	gcgccacagg	tacaattact	ggcgcctata	tcgccgacat	caccgatggg	8520
gaagatcggg	ctcgccactt	cgggctcatg	agcgcttgtt	tcggcgtggg	tatogtogca	8580
ggccccgtgg	ccgggggact	gttgggcgcc	atctccttgc	atgcaccatt	ccttqcqqcq	8640
gcggtgctca	acggcctcaa	cctactactg	ggctgcttcc	taatgcagga	gtcgcataag	8700
ggagagcgtc	gaccgatgcc	cttgagagcc	ttcaacccag	tcagctcctt	ccggtgggcg	8760
cggggcatga	ctatcgtcgc	cgcacttatg	actgtcttct	ttatcatgca	actcgtagga	8820
caggtgccgg	cagcgctctg	ggtcattttc	ggcgaggacc	gctttcgctg	gagcgcgacg	8880
atgatcggcc	tgtcgcttgc	ggtattcgga	atcttgcacg	ccctcgctca	agcettegte	8940
actggtcccg	ccaccaaacg	tttcggcgag	aagcaggcca	ttatcgccgg	catggcggcc	9000
gacgcgctgg	gctacgtctt	gctggcgttc	gcgacgcgag	gctggatggc	cttccccatt	9060
argarrette	tcgcttccgg	cggcatcggg	atgcccgcgt	tgcaggccat	gctgtccagg	9120
caggragarg	acgaccatca	gggacagctt	caaggatcgc	tegeggetet	taccagccta	9180
accedatea	ccggaccgct	gatcgtcacg	gcgatttatg	cegeetegge	gagcacatgg	9240
aacygyttgg	catggattgt	aggegeegee	ctataccttg	tctgcctccc	cgcgttgcgt	9300
cattcaccac	tagaagaatt	ggagggaata	rgaatggaag	ccggcggcac	ctcgctaacg	9360
gacccaccac	cccaagaact	ggagccaatc	aactettgeg	gagaactgtg	aatgcgcaaa	9420

ccaacccttg	gcagaacata	tccatcgcgt	ccgccatctc	cagcagccgc	acgcggcgca	9480
tctcgggcag	cgttgggtcc	tggccacggg	tgcgcatgat	cgtgctcctg	tcgttgagga	9540
cccggctagg	ctggcggggt	tgccttactg	gttagcagaa	tgaatcaccg	atacgcgagc	9600
gaacgtgaag	cgactgctgc	tgcaaaacgt	ctgcgacctg	agcaacaaca	tgaatggtct	9660
tcaatttcca	tqtttcqtaa	aqtctqqaaa	cgcggaagtc	agcgccctgc	accattatgt	9720
tccggatctg	catcgcagga	tgctgctggc	taccctgtgg	aacacctaca	tctgtattaa	9780
cgaagcgctg	gcattgaccc	tgagtgattt	ttctctggtc	ccgccgcatc	cataccgcca	9840
gttgtttacc	ctcacaacgt	tccagtaacc	gggcatgttc	atcatcagta	acccgtatcg	9900
tgagcatcct	ctctcgtttc	atcggtatca	ttacccccat	gaacagaaat	tcccccttac	9960
acggaggcat	caagtgacca	aacaggaaaa	aaccgccctt	aacatggccc	gctttatcag	10020
aagccagaca	ttaacgcttc	tggagaaact	caacgagctg	gacgcggatg	aacaggcaga	10080
catctgtgaa	tcgcttcacg	accacgctga	tgagctttac	cgcagctgcc	tcgcgcgttt	10140
cggtgatgac	ggtgaaaacc	tctgacacat	gcagctcccg	gagacggtca	cagcttgtct	10200
gtaagcggat	gccgggagca	gacaagcccg	tcagggcgcg	tcagcgggtg	ttggcgggtg	10260
tcggggcgca	gccatgaccc	agtcacgtag	cgatagcgga	gtgtatactg	gcttaactat	10320
gcggcatcag	agcagattgt	actgagagtg	caccatatgc	ggtgtgaaat	accgcacaga	10380
tgcgtaagga	gaaaataccg	catcaggcgc	tcttccgctt	cctcgctcac	tgactcgctg	10440
cgctcggtcg	ttcggctgcg	gcgagcggta	tcagctcact	caaaggcggt	aatacggtta	10500
tccacagaat	caggggataa	cgcaggaaag	aacatgtgag	caaaaggcca	gcaaaaggcc	10560
aggaaccgta	aaaaggccgc	gttgctggcg	tttttccata	ggctccgccc	ccctgacgag	10620
catcacaaaa	atcgacgctc	aagtcagagg	tggcgaaacc	cgacaggact	ataaagatac	10680
caggcgtttc	cccctggaag	ctccctcgtg	cgctctcctg	ttccgaccct	gccgcttacc	10740
ggatacctgt	ccgcctttct	cccttcggga	agcgtggcgc	tttctcatag	ctcacgctgt	10800
aggtatctca	gttcggtgta	ggtcgttcgc	tccaagctgg	gctgtgtgca	cgaacccccc	10860
gttcagcccg	accgctgcgc	cttatccggt	aactatcgtc	ttgagtccaa	cccggtaaga	10920
cacgacttat	cgccactggc	agcagccact	ggtaacagga	ttagcagagc	gaggtatgta	10980
ggcggtgcta	cagagttctt	gaagtggtgg	cctaactacg	gctacactag	aaggacagta	11040
tttggtatct	gcgctctgct	gaagccagtt	accttcggaa	aaagagttgg	tagctcttga	11100
tccggcaaac	aaaccaccgc	tggtagcggt	ggtttttttg	tttgcaagca	gcagattacg	11160
cgcagaaaaa	aaggatctca	agaagatcct	ttgatctttt	ctacggggtc	tgacgctcag	11220
tggaacgaaa	actcacgtta	agggattttg	gtcatgagat	tatcaaaaag	gatcttcacc	11280
		acgactcact			•	11313

<210> 5
<211> 11313
<212> DNA
<213> Artificial Sequence
<220>

<223> Plasmid

## <400> 5

gccagccccc gattgggggc gacactccac catagatcac tcccctgtga ggaactactg 60 tcttcacgca gaaagcgtct agccatggcg ttagtatgag tgtcgtgcag cctccaggac 120 ccccctccc gggagagcca tagtggtctg cggaaccggt gagtacaccg gaattgccag 180 240 gacgaccggg tcctttcttg gatcaacccg ctcaatgcct ggagatttgg gcgtgccccc gcgagactgc tagccgagta gtgttgggtc gcgaaaggcc ttgtggtact gcctgatagg 300 gtgcttgcga gtgccccggg aggtctcgta gaccgtgcac catgagcacg aatcctaaac 360 420 ctcaaagaaa aaccaaaggg cgcgccatga ttgaacaaga tggattgcac gcaggttctc cggccgcttg ggtggagagg ctattcggct atgactgggc acaacagaca atcggctgct 480 540 ctgatgccgc cgtgttccgg ctgtcagcgc aggggggccc ggttcttttt gtcaagaccg acctgtccgg tgccctgaat gaactgcagg acgaggcagc gcggctatcg tggctggcca 600 cgacgggcgt tccttgcgca gctgtgctcg acgttgtcac tgaagcggga agggactggc 660 720 tgctattggg cgaagtgccg gggcaggatc tcctgtcatc tcaccttgct cctgccgaga 780 aagtatccat catggctgat gcaatgcggc ggctgcatac gcttgatccg gctacctgcc cattcgacca ccaagcgaaa catcgcatcg agcgagcacg tactcggatg gaagccggtc 840 900 ttgtcgatca ggatgatctg gacgaagagc atcaggggct cgcgccagcc gaactgttcg 960 ccaggeteaa ggegegeatg cccgaeggeg aggatetegt cgtgaeceat ggegatgeet 1020 gcttgccgaa tatcatggtg gaaaatggcc gcttttctgg attcatcgac tgtggccggc tgggtgtggc ggaccgctat caggacatag cgttggctac ccgtgatatt gctgaagagc 1080 1140 ttggcggcga atgggctgac cgcttcctcg tgctttacgg tatcgccgct cccgattcgc 1200 agegcatege ettetatege ettettgaeg agttettetg agtttaaaca gaccacaacg gtttccctct agcgggatca attccgcccc tctccctccc cccccctaa cgttactggc 1260 1320 cgaagccgct tggaataagg ccggtgtgcg tttgtctata tgttattttc caccatattg

ccatcttttg	gcaatgtgag	qqcccqqaaa	cctggccctg	tcttcttgac	gagcattcct	1380
				tgaatgtcgt		1440
				cgaccctttg		1500
				cacgtgtata		1560
				tagttgtgga		1620
				cccagaaggt		1680
				gtgtttagtc		1740
				ttgaaaaaca		1800
atggcgccta	ttacggccta	ctcccaacag	acgcgaggcc	tacttggctg	catcatcact	1860
agcctcacag	gccgggacag	gaaccaggtc	gaggggagg	tccaagtggt	ctccaccgca	1920
acacaatctt	tcctggcgac	ctgcgtcaat	ggcgtgtgtt	ggactgtcta	tcatggtgcc	1980
				aaatgtacac		2040
caggacctcg	tcggctggca	agcgccccc	ggggcgcgtt	ccttgacacc	atgcacctgc	2100
ggcagctcgg	acctttactt	ggtcacgagg	catgccgatg	tcattccggt	gcgccggcgg	2160
				cctacttgaa		2220
ggcggtccac	tgctctgccc	ctcggggcac	gctgtgggca	tctttcgggc	tgccgtgtgc	2280
acccgagggg	ttgcgaaggc	ggtggacttt	gtacccgtcg	agtctatggg	aaccactatg	2340
cggtccccgg	tcttcacgga	caactcgtcc	cctccggccg	taccgcagac	attccaggtg	2400
gcccatctac	acgcccctac	tggtagcggc	aagagcacta	aggtgccggc	tgcgtatgca	2460
gcccaagggt	ataaggtgct	tgtcctgaac	ccgtccgtcg	ccgccaccct	aggtttcggg	2520
gcgtatatgt	ctaaggcaca	tggtatcgac	cctaacatca	gaaccggggt	aaggaccatc	2580
accacgggtg	cccccatcac	gtactccacc	tatggcaagt	ttcttgccga	cggtggttgc	2640
tctgggggcg	cctatgacat	cataatatgt	gatgagtgcc	actcaactga	ctcgaccact	2700
atcctgggca	tcggcacagt	cctggaccaa	gcggagacgg	ctggagcgcg	actcgtcgtg	2760
ctcgccaccg	ctacgcctcc	gggatcggtc	accgtgccac	atccaaacat	cgaggaggtg	2820
				ccatccccat		2880
				aatgtgatga		2940
				ggggccttga		3000
				ctctaatgac		3060
				cccagacagt		3120
				aagacgcggt		3180
				acaggtttgt		3240
				agtgctatga		3300
				tgcgggctta		3360
ccagggttgc	ccgtctgcca	ggaccatctg	gagttctggg	agagcgtctt	tacaggcctc	3420
acccacatag	acgcccattt	cttgtcccag	actaagcagg	caggagacaa	cttcccctac	3480
				ctccacctcc		3540
caaatgtgga	agtgtctcat	acggctaaag	cctacgctgc	acgggccaac	geceetgetg	3600
tataggctgg	gagccgttca	aaacgaggtt	actaccacac	accccataac	caaatacatc	3660
atggcatgca	tgtcagctga	cctggaggtc	gtcacgagca	cctgggtgct	ggtaggcgga	3720
gtcctagcag	ctctggccgc	gtattgcctg	acaacaggca	gcgtggtcat	tgtgggcagg	3780
atcatcttgt	ccggaaagcc	ggccatcatt	cccgacaggg	aagtctttta	ccgggagtte	3840
				aacggggaat		3900
				ccaccaagca		3960
getgeteeeg	cggtggaate	caagtggcgg	accetegaag	ccttctgggc	gaageatatg	4020
				ccactctgcc		4080 4140
				gcccgctcac		4200
				aacttgctcc		4260
				ttggcagcat tggcaggcgc		4320
						4380
				tggttaacct cagcgatact		4440
					cgcttcgcgg	4500
graggereag	tataaaaaa	cgcgcagcgg	acyaaccygc	acgctgcagc	acatataact	4560
				ggcttcacca		4620
					ttggatatgc	4680
					attgccggga	4740
					cggcatcatg	4800
					ttccatgagg	4860
				cattccccat		4920
accacaaacc	cctgcacgc	ctccccacc	ccaaattatt	ctagggcgct	ataacaaata	4980
actactasaa	agtacgtoga	gattacacaa	atagagaatt	tecaetacet	gacgggcatg	5040
					cacagaagtg	5100
					ggaggaggtc	5160
					cgagcccgaa	5220
					ggcggagacg	5280
= = = = = = = = = = = = = = = = = = = =					JJ: JJJ>	

gctaagcgta	ggctggccag	gggatctccc	ccctccttgg	ccagctcatc	agctatccag	5340
ctgtctgcgc	cttccttgaa	ggcaacatgc	actacccgtc	atgactcccc	ggacgctgac	5400
ctcatcgagg	ccaacctcct	gtggcggcag	gagatgggcg	ggaacatcac	ccgcgtggag	5460
aggaadata	aggtagtaat	cccggagtet	ttcgagccgc	cccaagcgga	ggaggatgag	5520
cccatatogo	ccgttccggc cacgcccgga	ttacaaccet	eggaggteea	ggaaatteee	rcgagcgatg	5580
tacqtccctc	cagtggtaca	caaatataca	ttaccaccta	ccaaccccc	ggacccggac	5640 5700
cctccacqqa	ggaagaggac	gattatecta	tcagaatcta	ccatatette	taccttacca	5760 5760
gagetegeea	caaagacctt	cadcadctcc	gaatcgtcgg	ccatcaacaa	caacacaaca	5820
acggcctctc	ctgaccagcc	ctccgacgac	ggcgacgcgg	gatccgacgt	tgagtcgtac	5880
tcctccatgc	cccccttga	gggggagccg	ggggatcccg	atctcagcga	cgggtcttgg	5940
tctaccgtaa	gcgaggaggc	tagtgaggac	gtcgtctgct	gctcgatgtc	ctacacatgg	6000
acaggcgccc	tgatcacgcc	atgcgctgcg	gaggaaacca	agctgcccat	caatgcactg	6060
	tgctccgtca					6120
ctgcggcaga	agaaggtcac	ctttgacaga	ctgcaggtcc	tggacgacca	ctaccgggac	6180
	agatgaaggc					6240
gaageeegea	agctgacgcc acctatccag	caacacatt	gecagateta	actinggeta	cggggcaaag	6300 6360
	ctgagacacc					6420
	agaagggggg					6480
gttcgtgtgt	gcgagaaaat	ggccctttac	gatgtggtct	ccaccctccc	tcaggcgtg	6540
	catacggatt					6600
	cgaagaaatg					6660
acggtcactg	agaatgacat	ccgtgttgag	gagtcaatct	accaatgttg	tgacttggcc	6720
	gacaggccat					6780
actaattcta	aagggcagaa	ctgcggctat	cgccggtgcc	gcgcgagcgg	tgtactgacg	6840
accagetgeg	gtaataccct	cacatgttac	ttgaaggccg	ctgcggcctg	tcgagctgcg	6900.
	actgcacgat aagaggacga					6960 7020
tetaccccc	ctggggaccc	gcccaaacca	gaatacgact	tggaggttgat	aacatcatgo	7020
tcctccaatg	tgtcagtcgc	gcacqatqca	tctqqcaaaa	qqqtqtacta	tctcacccgt	7140
gaccccacca	cccccttgc	gcgggctgcg	tgggagacag	ctagacacac	tccagtcaat	7200
tcctggctag	gcaacatcat	catgtatgcg	cccaccttgt	gggcaaggat	gatcctgatg	7260
actcatttct	tctccatcct	tctagctcag	gaacaacttg	aaaaagccct	agattgtcag	7320
atctacgggg	cctgttactc	cattgagcca	cttgacctac	ctcagatcat	tcaacgactc	7380
catggcctta	gcgcattttc	actccatagt	tactctccag	gtgagatcaa	tagggtggct	7440
gtagggggta	ggaaacttgg	ggtaccgccc	ttgcgagtct	ggagacatcg	ggccagaagt	7500
aactgggcag	ggctactgtc taaggaccaa	ccaggggggg	agggetgeea	caactacata	gracerere	7560 7620
ttatccacct	ggttcgttgc	togttacage	addadadaca	tatatcacag	cctatctcat	7620
gcccgacccc	gctggttcat	qtqqtqccta	ctcctacttt	ctgtaggggt	aggcatctat	7740
ctactcccca	accgatgaac	ggggacctaa	acactccagg	ccaataggcc	atcctgtttt	7800
tttccctttt	tttttttctt	tttttttt	tttttttt	tttttttt	ttctcctttt	7860
tttttcctct	tttttcctt	ttctttcctt	tggtggctcc	atcttagccc	tagtcacggc	7920
	aggtccgtga					7980
agatcaagta	ctcctgcagg	cgcgccacta	gtgggaatac	gcggggtatg	ccgcgtttta	8040
agtttatcac	gacccaattc	ctaeccaect	cagettatea	ctataaaget	traatgeggt	8100 8160
ctcatcatca	agttaaattg tcctcggcac	catcacccta	gatgetgtag	grangaaare	gattatacca	8220
gtactgccgg	gcctcttgcg	ggatatcgtc	cattccgaca	gcataggccag	tcactatggc	8280
gtgctgctag	cgctatatgc	gttgatgcaa	tttctatgcg	cacccqttct	cagagcacta	8340
tccgaccgct	ttggccgccg	cccagtcctg	ctcgcttcgc	tacttggagc	cactatcgac	8400
tacgcgatca	tggcgaccac	acccgtcctg	tggatcctct	acgccggacg	catcgtggcc	8460
ggcatcaccg	gcgccacagg	tgcggttgct	ggcgcctata	tcgccgacat	caccgatggg	8520
gaagatcggg	ctcgccactt	cgggctcatg	agcgcttgtt	tcggcgtggg	tatggtggca	8580
ggccccgtgg	ccgggggact	grrgggcgcc	atctccttgc	atgcaccatt	ccttgcggcg	8640
goggogocca	acggcctcaa	cttcaccacc	ggctgcttcc	taatgcagga	gccgcataag	8700 8760
cadadcatas	gaccgatgcc ctatcgtcgc	cocacttato	actototot	ttatcatcca	actcotaggeg	8760
caggtgccgg	cagcgctctg	ggtcattttc	dacdaddaca	actttcacta	gaggggagga	8880
atgatcggcc	tgtcgcttgc	ggtattcqqa	atcttgcacg	ccctcactca	agcetteate	8940
actggtcccg	ccaccaaacg	tttcggcgag	aagcaggcca	ttatcgccgg	catggcggcc	9000
gacgcgctgg	gctacgtctt	gctggcgttc	gcgacgcgag	gctggatggc	cttccccatt	9060
atgattcttc	tegetteegg	cggcatcggg	atgcccgcgt	tgcaggccat	gctgtccagg	9120
caggtagatg	acgaccatca	gggacagctt	caaqqatcqc	tcacaactct	taccaqccta	9180
acticyatca	ctggaccgct	gategteacg	gcgatttatg	ccgcctcggc	gagcacatgg	9240

cgcggtgcat gattcaccac ccaacccttg	ggagccgggc tccaagaatt gcagaacata	cacctcgacc ggagccaatc tccatcgcgt	tgaatggaag aattettgeg eegecatete	tctgcctccc ccggcggcac gagaactgtg cagcagccgc	ctcgctaacg aatgcgcaaa acgcggcgca	9300 9360 9420 9480
cccggctagg	ctggcggggt	tgccttactg	gttagcagaa	cgtgctcctg tgaatcaccg agcaacaaca	atacgcgagc	9540 9600 9660
tcggtttccg tccggatctg	tgtttcgtaa catcgcagga	agtctggaaa tgctgctggc	cgcggaagtc taccctgtgg	agcgccctgc aacacctaca	accattatgt tctgtattaa	9720 9780
gttgtttacc	ctcacaacgt	tccagtaacc	gggcatgttc	ccgccgcatc atcatcagta gaacagaaat	acccgtatcg	9840 9900 9960
acggaggcat aagccagaca	caagtgacca ttaacgcttc	aacaggaaaa tggagaaact	aaccgccctt caacgagctg	aacatggccc gacgcggatg cgcagctgcc	gctttatcag aacaggcaga	10020 10080 10140
cggtgatgac gtaagcggat	ggtgaaaacc gccgggagca	tctgacacat gacaagcccg	gcagctcccg tcagggcgcg	gagacggtca tcagcgggtg	cagcttgtct ttggcgggtg	10200 10260
gcggcatcag	agcagattgt	actgagagtg	caccatatgc	gtgtatactg ggtgtgaaat cctcgctcac	accgcacaga	10320 10380 10440
cgctcggtcg tccacagaat	ttcggctgcg caggggataa	gcgagcggta cgcaggaaag	tcagctcact aacatgtgag	caaaggeggt caaaaggeea ggeteegeee	aatacggtta gcaaaaggcc	10500 10560 10620
catcacaaaa caggcgtttc	atcgacgctc cccctggaag	aagtcagagg ctccctcgtg	tggcgaaacc cgctctcctg	cgacaggact ttccgaccct	ataaagatac gccgcttacc	10680 10740
aggtatctca	gttcggtgta	ggtcgttcgc	tccaagctgg	tttctcatag gctgtgtgca ttgagtccaa	cgaacccccc	10800 10860 10920
cacgacttat ggcggtgcta	cgccactggc cagagttctt	agcagccact gaagtggtgg	ggtaacagga cctaactacg	ttagcagagc gctacactag	gaggtatgta aaggacagta	10980 11040
tccggcaaac	aaaccaccgc	tggtagcggt	ggttttttg	aaagagttgg tttgcaagca ctacggggtc	gcagattacg	11100 11160 11220
	actcacgtta tctagataat			tatcaaaaag	gatcttcacc	11280 11313

```
<210> 6
<211> 11313
<212> DNA
<213> Artificial Sequence
<220>
<223> Plasmid
```

<400> 6

60 gccagccccc gattgggggc gacactccac catagatcac tcccctgtga ggaactactg tettcacgca gaaagegtet agecatggeg ttagtatgag tgtcgtgcag cetecaggae 120 ccccctccc gggagagcca tagtggtctg cggaaccggt gagtacaccg gaattgccag 180 gacgaccggg tectttettg gatcaacccg etcaatgeet ggagatttgg gegtgeecce gegagactge tagecgagta gtgttgggte gegaaaggee ttgtggtact geetgatagg 240 300 gtgcttgcga gtgccccggg aggtctcgta gaccgtgcac catgagcacg aatcctaaac 360 ctcaaagaaa aaccaaaggg cgcgccatga ttgaacaaga tggattgcac gcaggttctc 420 eggeegettg ggtggagagg etattegget atgaetggge acaacagaca ateggetget 480 540 ctgatgccgc cgtgttccgg ctgtcagcgc aggggcgccc ggttcttttt gtcaagaccg 600 acctgtccgg tgccctgaat gaactgcagg acgaggcagc gcggctatcg tggctggcca cgacgggcgt teettgegca getgtgeteg acgttgteac tgaageggga agggaetgge 660 tgctattggg cgaagtgccg gggcaggatc tcctgtcatc tcaccttgct cctgccgaga aagtatccat catggctgat gcaatgcggc ggctgcatac gcttgatccg gctacctgcc 720 780 cattegacea ceaagegaaa categeateg agegageaeg tacteggatg gaageeggte 840 ttgtcgatca ggatgatctg gacgaagagc atcaggggct cgcgccagcc gaactgttcg 900 ccaggeteaa ggegegeatg cccgaeggeg aggatetegt egtgaeceat ggegatgeet 960 gcttgccgaa tatcatggtg gaaaatggcc gcttttctgg attcatcgac tgtggccggc 1020 tgggtgtggc ggaccgctat caggacatag cgttggctac ccgtgatatt gctgaagagc 1080 ttggeggega atgggetgae egetteeteg tgetttaegg tategeeget eeegattege 1140

agcgcatcgc	cttctatcgc	cttcttgacg	agttcttctg	agtttaaaca	gaccacaacg	1200
				cccccctaa		1260
				tgttattttc		1320
				tcttcttgac		1380
				tgaatgtcgt		1440
				cgaccctttg		1500
				cacgtgtata		1560
				tagttgtgga		1620
				cccagaaggt gtgtttagtc		1680 1740
				ttgaaaaaca		1800
				tacttggctg		1860
				tccaagtggt		1920
				ggactgtcta		1980
				aaatgtacac		2040
caggacctcg	tcggctggca	agcgcccccc	ggggcgcgtt	ccttgacacc	atgcacctgc	2100
ggcagcgcgg	acctttactt	ggtcacgagg	catgccgatg	tcattccggt	gcgccggcgg	2160
				cctacttgaa		2220
				tctttcgggc		2280
				agtctatggg		2340
				taccgcagac		2400 2460
				aggtgccggc ccgccaccct		2520
				gaaccggggt		2580
				ttcttgccga		2640
tctaaaaaca	cctatgacat	cataatatot	gatgagtgcc	actcaactga	ctcgaccact	2700
				ctggagcgcg		2760
				atccaaacat		2820
gctctgtcca	gcactggaga	aatccccttt	tatggcaaag	ccatccccat	cgagaccatc	2880
				aatgtgatga		2940
				ggggccttga		3000
				ctctaatgac		3060
				cccagacagt		3120 3180
				aagacgcggt		3240
				acaggtttgt agtgctatga		3300
				tgcgggctta		3360
				agagcgtctt		3420
				caggagacaa		3480
				ctccacctcc		3540
				acgggccaac		3600
				accccataac		3660
				cctgggtgct		3720
				gcgtggtcat		3780
				aagtctttta		3840 3900
				aacggggaat ccaccaagca		3960
				ccttctgggc		4020
				ccactctgcc		4080
				gcccgctcac		4140
accctcctgt	ttaacatcct	ggggggatgg	gtggccgccc	aacttgctcc	tcccagcgct	4200
				ttggcagcat		4260
				tggcaggcgc		4320
				tggttaacct		4380
				cagcgatact		4440 4500
				tgatagcgtt		4500 4560
				acgctgcagc		4560
gaggactgct	ccacgccatg	ctccgactca	taactaacac	ggcttcacca atgtttggga	ttggatatgc	4680
				tectgeegeg		4740
				ggcggggcga		4800
				tgaaaaacgg		4860
				cattccccat		4920
accacgggcc	cctgcacgcc	ctccccggcg	ccaaattatt	ctagggcgct	gtggcgggtg	4980
				tccactacgt		5040
accactgaca	acgtaaagtg	cccgtgtcag	gttccggccc	ccgaattctt	cacagaagtg	5100

	ggttgcacag					5160
	tcgggctcaa					5220
	cagtgctcac					5280
gctaagcgta	ggctggccag	gggatctccc	ccctccttgg	ccagctcatc	agctatccag	5340
ctatctacac	cttccttgaa	ggcaacatgc	actacccgtc	atgactcccc	ggacgctgac	5400
ctcatcgagg	ccaacctcct	gtggcggcag	gagatgggcg	ggaacatcac	ccgcgtggag	5460
tcagaaaata	aggtagtaat	tttggagtct	ttcgagccgc	tccaagcgga	ggaggatgag	5520
agggaagtat	ccgttccggc	ggagatcctg	cggaggtcca	ggaaattccc	tcgagcgatg	5580
cccatatggg	cacgcccgga	ttacaaccct	ccactgttag	agtcctggag	ggacccggac	5640
tacgtccctc	cagtggtaca	cgggtgtcca	ttgccgcctg	ccaaggcccc	tccggtacca	5700
cctccacgga	ggaagaggac	ggttgtcctg	ccagaatcta	ccgtgtcttc	cgccctggcg	5760
	caaagacctt					5820
	ctgactagcc					5880
tcccccatgc	cccccttga	gggggagccg	ggggatcccg	attccagcga	cgggtcttgg	5940
	gcgagggggt					6000
	tgatcacgcc					6060
	tgctccgtca					6120
	agaaggtcac					6180
	agatgaaggc					6240
gaageetgta	agctgacgcc	cccacattcg	gccagatcta	aatttggcta	tggggcaaag	6300
	acctatccag					6360
	ctgagacacc					6420
	agaaggggg					6480
	gcgagaaaat					6540
	catacggatt					6600
	cgaagaaatg					6660
	agaatgacat					6720
	gacaggccat					6780
	aagggcagaa					6840 6900
	gtaataccct					6960
	actgcacgat					7020
	aagaggacga					7020
	ctggggaccc tgtcagtcgc					7140
	cccccttgc					7200
	gcaacatcat					7260
actcatttct	tctccatcct	tctagctcag	gaacaacttg	aaaaagccct	agattgtcag	7320
	cctgttactc					7380
	gcgcattttc					7440
	ggaaacttgg					7500
	ggctactgtc					7560
aactgggcag	taaggaccaa	gctcaaactc	actccaatcc	caactacatc	ccagttggat	7620
	ggttcgttgc					7680
	gctggttcat					7740
	accgatgaac					7800
tttccctttt	ttttttttt	tttttttt	tttttttt	tttttttt	ttctcctttt	7860
	ttttttcctt					7920
tagctgtgaa	aggtccgtga	gccgcttgac	tgcagagagt	gctgatactg	gcctctctgc	7980
	ctcctgcagg					8040
gcatattgac	gacccaattc	tcatgtttga	cagcttatca	tcgataagct	ttaatgcggt	8100
agtttatcac	agttaaattg	ctaacgcagt	caggcaccgt	gtatgaaatc	taacaatgcg	8160
ctcatcgtca	tcctcggcac	cgtcaccctg	gatgctgtag	gcataggctt	ggttatgccg	8220
gtactgccgg	gcctcttgcg	ggatatcgtc	cattccgaca	gcatcgccag	tcactatggc	8280
gtgctgctag	cgctatatgc	gttgatgcaa	tttctatgcg	cacccgttct	cggagcactg	8340
tccgaccgct	ttggccgccg	cccagtcctg	ctcgcttcgc	tacttggagc	cactatcgac	8400
	tggcgaccac					8460
ggcatcaccg	gcgccacagg	tgcggttgct	ggcgcctata	tcgccgacat	caccgatggg	8520
	ctcgccactt					8580
ggccccgtgg	ccgggggact	gttgggcgcc	atctccttgc	atgcaccatt	ccttgcggcg	8640
gcggtgctca	acggcctcaa	cctactactg	ggctgcttcc	taatgcagga	gtcgcataag	8700
ggagagcgtc	gaccgatgcc	cttgagagcc	ttcaacccag	tcagctcctt	ccggtgggcg	8760
cggggcatga	ctatcgtcgc	cgcacttatg	actgtcttct	ttatcatgca	actcgtagga	8820
caggtgccgg	cagcgctctg	ggtcattttc	ggcgaggacc	gctttcgctg	gagcgcgacg	8880
atgatcggcc	tgtcgcttgc	ggtattcgga	atcttgcacg	ccctcgctca	agccttcgtc	8940
actggtcccg	ccaccaaacg	tttcggcgag	aagcaggcca	ttatcgccgg	catggcggcc	9000
gacgcgctgg	gctacgtctt	gerggegtte	gcgacgcgag	gctggatggc	cttccccatt	9060

atgattette	tcacttccaa	caacatcaaa	atgcccgcqt	tgcaggccat	gctgtccagg	9120
				tcgcggctct		9180
acttcgatca	ctggaccgct	gatcgtcacg	gcgatttatg	ccgcctcggc	qaqcacatqq	9240
				tctgcctccc		9300
				ccggcggcac		93E0
				gagaactgtg		9420
ccaacccttq	qcaqaacata	tccatcgcgt	ccqccatctc	cagcagccgc	acqcqqcqca	9480
tctcgggcag	cgttgggtcc	tggccacggg	tgcgcatgat	cgtgctcctg	tcgttgagga	9540
				tgaatcaccg		9600
				agcaacaaca		9660
				agcgccctgc		9720
				aacacctaca		9780
				ccgccgcatc		9840
				atcatcagta		9900
				gaacagaaat		9960
				aacatggccc		10020
				gacgcggatg		10080
				cgcagctgcc		10140
				gagacggtca		10200
				tcagcgggtg		10260
				gtgtatactg		10320
gcggcatcag	agcagattgt	actgagagtg	caccatatgc	ggtgtgaaat	accgcacaga	10380
tgcgtaagga	gaaaataccg	catcaggcgc	tcttccgctt	cctcgctcac	tgactcgctg	10440
cgctcggtcg	ttcggctgcg	gcgagcggta	tcagctcact	caaaggcggt	aatacggtta	10500
tccacagaat	caggggataa	cgcaggaaag	aacatgtgag	caaaaggcca	gcaaaaggcc	10560
				ggctccgccc		10620
catcacaaaa	atcgacgctc	aagtcagagg	tggcgaaacc	cgacaggact	ataaagatac	10680
caggcgtttc	cccctggaag	ctccctcgtg	cgctctcctg	ttccgaccct	gccgcttacc	10740
				tttctcatag		10800
aggtatctca	gttcggtgta	ggtcgttcgc	tccaagctgg	gctgtgtgca	cgaacccccc	10860
				ttgagtccaa		10920
cacgacttat	cgccactggc	agcagccact	ggtaacagga	ttagcagagc	gaggtatgta	10980
				gctacactag		11040
				aaagagttgg		11100
				tttgcaagca		11160
				ctacggggtc		11220
				tatcaaaaag	gatcttcacc	11280
tagatccttt	tctagataat	acgactcact	ata			11313

```
<210> 7
<211> 11313
<212> DNA
<213> Artificial Sequence
<220>
<223> Plasmid
```

<400> 7 ;

60 gccagccccc gattgggggc gacactccac catagatcac tcccctgtga ggaactactg tottcacgca gaaagcgtot agccatggcg ttagtatgag tgtcgtgcag cotccaggac 120 ccccctccc gggagagcca tagtggtctg cggaaccggt gagtacaccg gaattgccag 180 gacgaceggg tectttettg gateaacecg etcaatgeet ggagatttgg gegtgeecec gegagaetge tageegagta gtgttgggte gegaaaggee ttgtggtaet geetgatagg 240 300 gtgcttgcga gtgccccggg aggtctcgta gaccgtgcac catgagcacg aatcctaaac 360 ctcaaagaaa aaccaaaggg cgcgccatga ttgaacaaga tggattgcac gcaggttctc 420 480 eggeegettg ggtggagagg etattegget atgaetggge acaacagaca ateggetget ctgatgccgc cgtgttccgg ctgtcagcgc aggggggccc ggttcttttt gtcaagaccg 540 acctgtccgg tgccctgaat gaactgcagg acgaggcagc gcggctatcg tggctggcca 600 cgacgggcgt tccttgcgca gctgtgctcg acgttgtcac tgaagcggga agggactggc 660 tgctattggg cgaagtgccg gggcaggate tcctgtcate tcacettget cctgccgaga aagtatccat catggctgat gcaatgcggc ggctgcatac gcttgatccg gctacetgcc 720 780 cattegacea ceaagegaaa categeateg agegageaeg tacteggatg gaageeggte 840 900 ttgtcgatca ggatgatctg gacgaagagc atcaggggct cgcgccagcc gaactgttcg 960 ccaggeteaa ggegegeatg ecegaeggeg aggatetegt egtgaeceat ggegatgeet

			•			
gcttgccgaa	tatcatggtg	qaaaatqqcc	gettttetgg	attcatcgac	tataaccaac	1020
				ccgtgatatt		1080
				tatcgccgct		1140
				agtttaaaca		1200
gtttccctct	agcgggatca	attccgcccc	tctccctccc	cccccctaa	cgttactggc	1260
				tgttattttc		1320
				tcttcttgac		1380
				tgaatgtcgt		1440
				cgaccctttg		1500
				cacgtgtata		1560
gcaaaggcgg	cacaacccca	gtgccacgtt	gtgagttgga	tagttgtgga	aagagtcaaa	1620
				cccagaaggt		1680
atgggatctg	atctggggcc	tcggtgcaca	tgctttacat	gtgtttagtc	gaggttaaaa	1740
				ttgaaaaaca		1800
				tacttggctg		1860
				tccaagtggt		1920
				ggactgtcta		1980
				aaatgtacac		2040
				ccttgacacc		2100
				tcattccggt		2160
				cctacttgaa		2220
				tctttcgggc		2280
				agtctatggg		2340
				taccgcagac		2400
				aggtgccggc		2460 2520
				ccgccaccct		2520
				gaaccggggt		2640
				ttcttgccga actcaactga		2700
atcctggggg	tragracact	cctccaccac	accaracac	ctggagcgcg	actententa	2760
				atccaaacat		2820
				ccatccccat		2880
				aatgtgatga		2940
				ggggccttga		3000
				ctctaatgac		3060
				cccagacagt		3120
				aagacgcggt		3180
				acaggtttgt		3240
				agtgctatga		3300
				tgcgggctta		3360
ccagggttgc	ccgtctgcca	ggaccatctg	gagttctggg	agagcgtctt	tacaggcctc	3420
				caggagacaa		3480
				ctccacctcc		3540
caaatgtgga	agtgtctcat	acggctaaag	cctacgctgc	acgggccaac	gcccctgctg	3600
				accccataac		3660
				cctgggtgct		3720
gtcctagcag	ctctggccgc	gtattgcctg	acaacaggca	gcgtggtcat	tgtgggcagg	3780
				aagtctttta		3840
				aacggggaat		3900
				ccaccaagca		3960 4020
				ccttctgggc		4020
				ccactctgcc		4140
				gcccgctcac aacttgctcc		4200
acttctactt	tratagger	caacatcact	graggraggeta	ttggcagcat	aggettaga	4260
				tggcaggcgc		4320
				tggttaacct		4380
atcctctccc	ctaacaccet	agtcatcaga	atcatataca	cagcgatact	acatcaacac	4440
gtgggcccag	gggaggaga	tatacaataa	atgaaccgg	tgatagcgtt	cacttcacaa	4500
ggtaaccacq	tctccccac	gcactatgta	cctgagagcg	acgctgcagc	acqtqtcact	4560
cagatcctct	ctagtcttac	catcactcag	ctgctgaaga	ggcttcacca	gtggatcaac	4620
gaggactgct	ccacgccatq	ctccggctca	tggctaagag	atgtttggga	ttggatatqc	4680
acggtgttga	ctgatttcaa	gacctggctc	cagtccaagc	tcctgccgcg	attgccggga	4740
gtccccttct	tctcatgtca	acgtgggtac	aagggagtct	ggcggggcga	cggcatcatg	4800
caaaccacct	gcccatgtgg	agcacagatc	accggacatg	tgaaaaacgg	ttccatgagg	4860
atcgtggggc	ctaggacctg	tagtaacacg	tggcatggaa	cattccccat	taacgcgtac	4920

accacgggcc cctgcacgcc	ctccccggcg	ccaaattatt	ctagggcgct	ataacaaata	4980
gctgctgagg agtacgtgga					5040
accactgaca acgtaaagtg	cccgtgtcag	gttccggccc	ccgaattctt	cacagaagtg	5100
gatggggtgc ggttgcacag					5160
acattoctgg tegggeteaa	toaatacctg	ghtgggtcac	ageteceatg	cgagcccgaa	5220
ccggacgtag cagtgctcac	ttccatgctc	accgacccct	cccacattac	ggcggagacg	5280
gctaagcgta ggctggccag					5340
ctgtctgcgc cttccttgaa					5400
ctcatcgagg ccaacctcct					5460
tcagaaaata aggtagtaat					5520
agggaagtat ccgttccggc					5580
cccatatggg cacgcccgga					5640
tacgtccctc cagtggtaca					5700
cctccacgga ggaagaggac					5760
gagetegeea caaagacett					5820
acggcctctc ctgactagcc					5880
tccccatgc cccccttga					5940
tctaccgtaa gcgagggggt	ataggaggag	gregrerger	geregargre	ccacacacgg	6000 6060
acaggegeee tgateacgee					6120
agcaactctt tgctccgtca ctgcggcaga agaaggtcac					6180
gtgctcaagg agatgaaggc					6240
gaagcetgta agetgaegee					6300
gacgtccgga acctatccag					6360
ctggaagaca ctgagacacc					6420
gtccaaccag agaagggggg					6480
gttcgtgtgt gcgagaaaat					6540
atgggctctt catacggatt					6600
gcctggaaag cgaagaaatg					6660
acggtcactg agaatgacat					6720
cccgaagcca gacaggccat	aaggtcgctc	acagagcggc	tttacatcgg	gggccccctg	6780
actaattcta aagggcagaa	ctgcggctat	cgccggtgcc	gcgcgagcgg	tgtactgacg	6840
accagctgcg gtaataccct	cacatgttac	ttgaaggccg	ctgcggcctg	tcgagctgcg	6900
aagctccagg actgcacgat					6960
gcggggaccc aagaggacga					7020
tetgeecee etggggaece					7080
tectecaatg tgteagtege					7140
gacccacca cccccttgc					7200
tcctggctag gcaacatcat					7260 7320
actcatttct tctccatcct					7380
atctacgggg cctgttactc catggcctta gcgcattttc					7440
tcatgcctca ggaaacttgg					7500
gtccgcgcta ggctactgtc					7560
aactgggcag taaggaccaa	gctcaaactc	actccaatcc	caactacatc	ccaqttqqat	7620
ttatccagct ggttcgttgc					7680
gcccgacccc gctggttcat					7740
ctactcccca accgatgaac					7800
tttccctttt ttttttctt					7860
tttttcctct tttttcctt	ttctttcctt	tggtggctcc	atcttagccc	tagtcacggc	7920
tagctgtgaa aggtccgtga	gccgcttgac	tgcagagagt	gctgatactg	gcctctctgc	7980
agatcaagta ctcctgcagg	cgcgccacta	gtgggaatac	gcggggtatg	ccgcgtttta	8040
gcatattgac gacccaattc					8100
agtttatcac agttaaattg	ctaacgcagt	caggcaccgt	gtatgaaatc	taacaatgcg	8160
ctcatcgtca tcctcggcac					8220
gtactgccgg gcctcttgcg					8280
gtgctgctag cgctatatgc	guigatgeaa	ctcctatgcg	taccogttct	cygagcactg	8340 8400
tecgaceget ttggccgccg	accordance	togatacta	acceggage	cattattegat	8400 8460
tacgcgatca tggcgaccac					8460 8520
ggcatcaccg gcgccacagg gaagatcggg ctcgccactt					8580
ggcccgtgg ccgggggact					8640
gcggtgctca acggcctcaa	cctactacta	gactacttee	taatgcagga	gtcgcataag	8700
ggagagcgtc gaccgatgcc					8760
cggggcatga ctatcgtcgc	cgcacttato	actotcttct	ttatcatoca	actcgtagga	8820
caggtgccgg cagcgctctg	ggtcattttc	ggcgaggacc	gctttcgctg	gagegegaeg	8880

atgatcggcc	tgtcgcttgc	ggtattcgga	atcttgcacg	ccctcgctca	agccttcgtc	8940
actggtcccg	ccaccaaacg	tttcggcgag	aagcaggcca	ttatcgccgg	catggcggcc	9000
gacgcgctgg	gctacgtctt	gctggcgttc	gcgacgcgag	gctggatggc	cttccccatt	9060
atgattcttc	tcgcttccgg	cggcatcggg	atgcccgcgt	tgcaggccat	gctgtccagg	9120
caggtagatg	acgaccatca	gggacagctt	caaggatcgc	tagaggatat	taccagocta	9180
acttcgatca	ctggaccgct	gatcgtcacg	gcgatttatg	ccgcctcggc	gagcacatgg	9240
aacgggttgg	catggattgt	aggcgccgcc	ctataccttg	tctgcctccc	cgcgttgcgt	9300
				ccggcggcac		9360
gattcaccac	tccaagaatt	ggagccaatc	aattcttgcg	gagaactgtg	aatgcgcaaa	9420
ccaacccttg	gcagaacata	tccatcgcgt	ccgccatctc	cagcagccgc	acgcggcgca	9480
tctcgggcag	cgttgggtcc	tggccacggg	tgcgcatgat	cgtgctcctg	tcgttgagga	9540
cccggctagg	ctggcggggt	tgccttactg	gttagcagaa	tgaatcaccg	atacgcgagc	9600
gaacgtgaag	cgactgctgc	tgcaaaacgt	ctgcgacctg	agcaacaaca	tgaatggtct	9660
tcggtttccg	tgtttcgtaa	agtctggaaa	cgcggaagtc	agcgccctgc	accattatgt	9720
tccggatctg	catcgcagga	tgctgctggc	taccctgtgg	aacacctaca	tctgtattaa	9780
				ccgccgcatc		9840
gttgtttacc	ctcacaacgt	tccagtaacc	gggcatgttc	atcatcagta	acccgtatcg	9900
tgagcatcct	ctctcgtttc	atcggtatca	ttacccccat	gaacagaaat	tcccccttac	9960
acggaggcat	caagtgacca	aacaggaaaa	aaccgccctt	aacatggccc	gctttatcag	10020
aagccagaca	ttaacgcttc	tggagaaact	caacgagctg	gacgcggatg	aacaggcaga	10080
catctgtgaa	tcgcttcacg	accacgctga	tgagctttac	cgcagctgcc	tcgcgcgttt	10140
cggtgatgac	ggtgaaaacc	tctgacacat	gcagctcccg	gagacggtca	cagcttgtct	10200
gtaagcggat	gccgggagca	gacaagcccg	tcagggcgcg	tcagcgggtg	ttggcgggtg	10260
tcggggcgca	gccatgaccc	agtcacgtag	cgatagcgga	gtgtatactg	gcttaactat	10320
gcggcatcag	agcagattgt	actgagagtg	caccatatgc	ggtgtgaaat	accgcacaga	10380
tgcgtaagga	gaaaataccg	catcaggcgc	tcttccgctt	cctcgctcac	tgactcgctg	10440
cgctcggtcg	ttcggctgcg	gcgagcggta	tcagctcact	caaaggcggt	aatacggtta	10500
tccacagaat	caggggataa	cgcaggaaag	aacatgtgag	caaaaggcca	gcaaaaggcc	10560
aggaaccgta	aaaaggccgc	gttgctggcg	tttttccata	ggctccgccc	ccctgacgag	10620
catcacaaaa	atcgacgctc	aagtcagagg	tggcgaaacc	cgacaggact	ataaagatac	10680
				ttccgaccct		10740
				tttctcatag		10800
				gctgtgtgca		10860
gttcagcccg	accgctgcgc	cttatccggt	aactatcgtc	ttgagtccaa	cccggtaaga	10920
cacgacttat	cgccactggc	agcagccact	ggtaacagga	ttagcagagc	gaggtatgta	10980
ggcggtgcta	cagagttctt	gaagtggtgg	cctaactacg	gctacactag	aaggacagta	11040
tttggtatct	gcgctctgct	gaagccagtt	accttcggaa	aaagagttgg	tagçtcttga	11100
				tttgcaagca		11160
cgcagaaaaa	aaggatctca	agaagatcct	ttgatctttt	ctacggggtc	tgacgctcag	11220
				tatcaaaaag	gatcttcacc	11280
tagatccttt	tctagataat	acgactcact	ata			11313

```
<210> 8
<211> 11313
<212> DNA
<213> Artificial Sequence
<220>
<223> Plasmid
```

<400> 8

```
gccagccccc gattgggggc gacactccac catagatcac tcccctgtga ggaactactg
                                                                      60
tetteaegea gaaagegtet ageeatggeg ttagtatgag tgtegtgeag cetecaggae
                                                                      120
ccccctccc gggagagcca tagtggtctg cggaaccggt gagtacaccg gaattgccag
                                                                      180
gacgaccggg teetttettg gateaacccg etcaatgeet ggagatttgg gegtgeecce
                                                                      240
gcgagactgc tagccgagta gtgttgggtc gcgaaaggcc ttgtggtact gcctgatagg
                                                                      300
gtgcttgcga gtgccccggg aggtctcgta gaccgtgcac catgagcacg aatcctaaac
                                                                      360
ctcaaagaaa aaccaaaggg cgcgccatga ttgaacaaga tggattgcac gcaggttctc
                                                                      420
eggeegettg ggtggagagg etattegget atgaetggge acaacagaca ateggetget
                                                                      480
ctgatgccgc cgtgttccgg ctgtcagcgc aggggcgccc ggttcttttt gtcaagaccg
                                                                      540
acctgtccgg tgccctgaat gaactgcagg acgaggcagc gcggctatcg tggctggcca
                                                                      600
cgacgggcgt tccttgcgca gctgtgctcg acgttgtcac tgaagcggga agggactggc
                                                                      660
tgctattggg cgaagtgccg gggcaggatc tcctgtcatc tcaccttgct cctgccgaga
                                                                      720
aagtatecat catggetgat geaatgegge ggetgeatae gettgateeg getacetgee
                                                                      780
```

cattcgacca	ccaagcgaaa	catcgcatcg	agcgagcacg	tactcggatg	gaagccggtc	840
	ggatgatctg					900
	ggcgcgcatg					960
	tatcatggtg					1020
tgggtgtgqc	ggaccgctat	caggacataq	cqttqqctac	ccgtgatatt	gctgaagagc	1080
	atgggctgac					1140
	cttctatcgc					1200
gtttccctct	agcgggatca	attccgcccc	tetecetece	cccccctaa	cgttactggc	1260
cgaagccgct	tggaataagg	ccaatataca	tttqtctata	tottattttc	caccatatto	1320
	gcaatgtgag					1380
	cccctctcgc					1440
gttcctctgg	aagcttcttg	aagacaaaca	acgtctgtag	cgaccctttg	caggcagcgg	1500
aaccccccac	ctggcgacag	atacctctac	ggccaaaagc	cacqtqtata	agatacacct	1560
	cacaacccca					1620
						1680
	caagcgtatt					
	atctggggcc					1740
aacgtctagg	cccccgaac	cacggggacg	tggttttcct	ttgaaaaaca	cgataatacc	1800
	ttacggccta					1860
	gccgggacag					1920
	tcctggcgac					1980
ggctcaaaga	cccttgccgg	cccaaagggc	ccaatcaccc	aaatgtacac	caatgtggac	2040
caggacctcg	tcggctggca	agcgccccc	aggacacatt	ccttgacacc	atgcacctgc	2100
	acctttactt					2160
	gggggagcct					2220
ggcggtccac	tgctctgccc	ctcggggcac	gctgtgggca	tctttcgggc	tgccgtgtgc	2280
acccgagggg	ttgcgaaggc	ggtggacttt	gtacccgtcg	agtctatggg	aaccactatg	2340
	tcttcacgga					2400
		_				2460
	acgcccctac					
	ataaggtgct					2520
gcgtatatgt	ctaaggcaca	tggtatcgac	cctaacatca	gaaccggggt	aaggaccatc	2580
accacgggtg	ccccatcac	qtactccacc	tatqqcaaqt	ttcttqccqa	cggtggttgc	2640
	cctatgacat					2700
						2760
	tcggcacagt					
ctcgccaccg	ctacgcctcc	gggatcggtc	accgtgccac	atccaaacat	cgaggaggtg	2820
gctctgtcca	gcactggaga	aatccccttt	tatggcaaag	ccatccccat	cgagaccatc	2880
	ggcacctcat					2940
						3000
	gcctcggact					
	gcggagacgt					3060
ggcgatttcg	actcagtgat	cgactgcaat	acatgtgtca	cccagacagt	cgacttcagc	3120
ctggacccga	ccttcaccat	tgagacgacg	accqtqccac	aagacgcggt	gtcacgctcg	3180
	gcaggactgg					3240
	cgggcatgtt					3300
gcttggtacg	agctcacgcc	cgccgagacc	tcagttaggt	tgcgggctta	cctaaacaca	3360
ccagggttgc	ccgtctgcca	ggaccatctg	gagttctggg	agagcgtctt	tacaggcctc	3420
	acgcccattt					3480
	accaggctac					3540
caaatgtgga	agtgtctcat	acggctaaag	cetaegetge	acgggccaac	geeeetgetg	3600
tataggctgg	gagccgttca	aaacgaggtt	actaccacac	accccataac	caaatacatc	3660
atggcatgca	tgtcggctga	cctggaggtc	gtcacgagca	cctgggtgct	ggtaggcgga	3720
	ctctggccgc					3780
						3840
	ccggaaagcc					
	aagagtgcgc					3900
gaacaattca	aacagaaggc	aatcgggttg	ctgcaaacag	ccaccaagca	agcggaggct	3960
gctgctcccg	tggtggaatc	caagtggcgg	accetegaag	ccttctqqqc	gaagcatatg	4020
	tcagcgggat					4080
						4140
	cactgatggc					
accctcctgt	ttaacatcct	gggggatgg	gtggccgccc	aacttgctcc	teccageget	4200
gcttctgctt	tcgtaggcgc	cggcatcgct	ggagcggctg	ttggcagcat	aggccttggg	4260
	tggatatttt					4320
	tgagcggcga					4380
atactata-	atacese est	action of the second	accyayyacc		accectiget	
alcototoco	ctggcgccct	agregeeggg	arcaracaca	cagcgatact	gegreggeae	4440
gtgggcccag	gggaggggc	tgtgcagtgg	atgaaccggc	tgatagcgtt	cgcttcgcgg	4500
ggtaaccacg	tctccccac	gcactatgtq	cctgagagcg	acgetqeaqe	acgtgtcact	4560
cagatectet	ctagtcttac	catcactcac	ctactassas	gacttcacca	gtggatcaac	4620
daddadtddt	ccacacata	ctccccctcag	taaataaaa	2500000000	++002+2+0	4680
gaggactgct	ccacgccatg	ccccggcccg	cygocaagag	acgiciggga	LLYGALALGC	
acggtgttga	ctgatttcaa	gacctggctc	cagtccaagc	rccrgccgcg	attgccggga	4740

gtccccttct	tctcatgtca	acgtgggtac	aaqqqaqtct	ggcggggcga	cggcatcatg	4800
caaaccacct	gcccatgtgg	agcacagatc	accogacato	tgaaaaacgg	ttccatgagg	4860
atcatagaac	ctaggacctg	tagtaacacg	tagcatagaa	cattccccat	taacgcgtac	4920
accacgggcc	cctgcacgcc	ctccccaca	ccaaattatt	ctaggggggt	ataacaaata	4980
	agtacgtgga					5040
accactgaga	acgtaaagtg	cccatatcac	attagggacc	cccaettctt	Sacadacara	5100
categggtag	acttacages	ctaccataca	getteggeee	cogaactect	cacagaagtg	
gacggggtgc	ggttgcacag	tantaata	gegegeaaac	ccccccacg	ggaggaggte	5160
	tcgggctcaa					5220
ceggaegtag	cagtgctcac	ttecatgete	accgacccct	cccacattac	ggcggagacg	5280
	ggctggccag					5340
	cttccttgaa					5400
ctcatcgagg	ccaacctcct	gtggcggcag	gagatgggcg	ggaacatcac	ccgcgtggag	5460
	aggtagtaat					5520
agggaagtat	ccgttccggc	ggagatcctg	cggaggtcca	ggaaattccc	tcgagcgatg	5580
cccatatggg	cacgcccgga	ttacaaccct	ccactgttag	agtcctggaa	ggacccggac	5640
tacgtccctc	cagtggtaca	cgggtgtcca	ttgccgcctg	ccaaggcccc	tccgatacca	5700
cctccacgga	ggaagaggac	ggttgtcctg	tcagaatcta	ccgtgtcttc	tgccttggcg	5760
	caaagacctt					5820
	ctgaccagcc					5880
	cccccttga					5940
tctaccqtaa	gcgaggaggc	tagtgaggac	atcatctact	gctcgatgtc	ctacacatoo	6000
	tgatcacgcc					6060
	tgctccgtca					6120
	agaaggtcac					6180
	agatgaaggc					6240
gaageeegea	agetgaegee	annagaaatt	gecagateta	aatttggcta	cggggcaaag	6300
	acctatccag					6360
	ctgagacacc					6420
	agaagggggg					6480
	gcgagaaaat					6540
	catacggatt					6600
	cgaagaaatg					6660
	agaatgacat					6720
	gacaggccat					6780
actaattcta	aagggcagaa	ctgcggctat	cgccggtgcc	gcgcgagcgg	tgtactgacg	6840
accagctgcg	gtaataccct	cacatgttac	ttgaaggccg	ctgcggcctg	tcgagctgcg	6900
aagctccagg	actgcacgat	gctcgtatgc	ggagacgacc	ttgtcgttat	ctgtgaaagc	6960
	aagaggacga					7020
	ctggggaccc					7080
	tgtcagtcgc					7140
	cccccttgc					7200
	gcaacatcat					7260
	tctccatcct					7320
atctacgggg	cctgttactc	cattgaggga	cttgacctac	ctcagatcat	tcaacgactc	7380
catggcctta	gcgcattttc	actccatagt	tactctccag	ataagatcaa	tagggtggct	7440
	ggaaacttgg					7500
	ggctactgtc					7560
	taaggaccaa					7620
						7680
	ggttcgttgc					
	actact.cat.					7740
CLACLCCCCA				ctgtaggggt		7000
***	accgatgaac	ggggacctaa	acactccagg	ccaataggcc	atcctgtttt	7800
tttccctttt	accgatgaac tttttttctt	ggggacctaa ttttttttt	acactccagg ttttttttt	ccaataggcc ttttttttt	atcctgtttt ttctcctttt	7860
tttccctttt ttttcctct	accgatgaac tttttttctt ttttttcctt	ggggacctaa ttttttttt ttctttcctt	acactccagg ttttttttt tggtggctcc	ccaataggcc tttttttt atcttagccc	atcctgtttt ttctcctttt tagtcacggc	7860 7920
tttccctttt tttttcctct tagctgtgaa	accgatgaac tttttttctt ttttttcctt aggtccgtga	ggggacctaa ttttttttt ttctttcctt gccgcttgac	acactccagg ttttttttt tggtggctcc tgcagagagt	ccaataggcc ttttttttt atcttagccc gctgatactg	atcetgtttt tteteetttt tagteaegge geetetetge	7860 7920 7980
tttccctttt tttttcctct tagctgtgaa agatcaagta	accgatgaac tttttttctt ttttttcctt aggtccgtga ctcctgcagg	ggggacctaa ttttttttt ttctttcctt gccgcttgac cgcgccacta	acactccagg ttttttttt tggtggctcc tgcagagagt gtgggaatac	ccaataggcc ttttttttt atcttagccc gctgatactg gcggggtatg	atcetgtttt ttctcctttt tagtcacggc gcctctctgc ccgcgtttta	7860 7920 7980 8040
tttccctttt tttttcctct tagctgtgaa agatcaagta gcatattgac	accgatgaac ttttttctt tttttcctt aggtccgtga ctcctgcagg gacccaattc	ggggacctaa ttttttttt ttctttcctt gccgcttgac cgcgccacta tcatgtttga	acactccagg ttttttttt tggtggctcc tgcagagagt gtgggaatac cagcttatca	ccaataggcc ttttttttt atcttagccc gctgatactg gcggggtatg tcgataagct	atcctgtttt ttctcctttt tagtcacggc gcctctctgc ccgcgtttta ttaatgcggt	7860 7920 7980 8040 8100
tttccctttt tttttcctct tagctgtgaa agatcaagta gcatattgac agtttatcac	accgatgaac ttttttctt ttttttcctt aggtccgtga ctcctgcagg gacccaattc agttaaattg	ggggacctaa ttttttttt ttctttcctt gccgcttgac cgcgccacta tcatgtttga ctaacgcagt	acactccagg ttttttttt tggtggctcc tgcagagagt gtgggaatac cagcttatca caggcaccgt	ccaataggcc ttttttttt atcttagccc gctgatactg gcggggtatg tcgataagct gtatgaaatc	atcctgtttt ttctcctttt tagtcacggc gcctctctgc ccgcgtttta ttaatgcggt taacaatgcg	7860 7920 7980 8040 8100 8160
tttccctttt tttttcctct tagctgtgaa agatcaagta gcatattgac agtttatcac ctcatcgtca	accgatgaac ttttttctt ttttttcctt aggtccgtga ctcctgcagg gacccaattc agttaaattg tcctcggcac	ggggacctaa ttttttttt ttctttcctt gccgcttgac cgcgccacta tcatgtttga ctaacgcagt cgtcaccctg	acactccagg ttttttttt tggtggctcc tgcagagagt gtgggaatac cagcttatca caggcaccgt gatgctgtag	ccaataggcc ttttttttt atcttagccc gctgatactg gcggggtatg tcgataagct gtatgaaatc gcataggctt	atcctgtttt ttctcctttt tagtcacggc gcctctctgc ccgcgtttta ttaatgcggt taacaatgcg ggttatgccg	7860 7920 7980 8040 8100 8160 8220
tttccctttt tttttcctct tagctgtgaa agatcaagta gcatattgac agtttatcac ctcatcgtca gtactgccgg	accgatgaac ttttttctt ttttttcctt aggtccgtga ctcctgcagg gacccaattc agttaaattg tcctcggcac gcctcttgcg	ggggacctaa ttttttttt ttctttcctt gccgcttgac cgcgccacta tcatgtttga ctaacgcagt cgtcaccctg ggatatcgtc	acactccagg ttttttttt tggtggctcc tgcagagagt gtgggaatac cagcttatca caggcaccgt gatgctgtag cattccgaca	ccaataggcc ttttttttt atcttagccc gctgatactg gcggggtatg tcgataagct gtatgaaatc gcataggctt gcatcgccag	atcctgtttt ttctcctttt tagtcacggc gcctctctgc ccgcgtttta ttaatgcggt taacaatgcg ggttatgccg tcactatggc	7860 7920 7980 8040 8100 8160 8220 8280
tttccctttt tttttcctct tagctgtgaa agatcaagta gcatattgac agtttatcac ctcatcgtca gtactgccgg gtgctgctag	accgatgaac ttttttctt ttttttcctt aggtccgtga ctcctgcagg gacccaattc agttaaattg tcctcggcac gcctcttgcg	ggggacctaa ttttttttt ttctttcctt gccgcttgac cgcgccacta tcatgtttga ctaacgcagt cgtcaccctg ggatatcgtc gttgatgcaa	acactccagg ttttttttt tggtggctcc tgcagagagt gtgggaatac cagcttatca caggcaccgt gatgctgtag cattccgaca tttctatgcg	ccaataggcc ttttttttt atcttagccc gctgatactg gcggggtatg tcgataagct gtatgaaatc gcataggctt gcatcgccag cacccgttct	atcctgtttt ttctcctttt tagtcacggc gcctctctgc ccgcgtttta ttaatgcggt taacaatgcg ggttatgccg tcactatggc cggagcactg	7860 7920 7980 8040 8100 8160 8220
tttccctttt tttttcctct tagctgtgaa agatcaagta gcatattgac agtttatcac ctcatcgtca gtactgccgg gtgctgctag	accgatgaac ttttttctt ttttttcctt aggtccgtga ctcctgcagg gacccaattc agttaaattg tcctcggcac gcctcttgcg	ggggacctaa ttttttttt ttctttcctt gccgcttgac cgcgccacta tcatgtttga ctaacgcagt cgtcaccctg ggatatcgtc gttgatgcaa	acactccagg ttttttttt tggtggctcc tgcagagagt gtgggaatac cagcttatca caggcaccgt gatgctgtag cattccgaca tttctatgcg	ccaataggcc ttttttttt atcttagccc gctgatactg gcggggtatg tcgataagct gtatgaaatc gcataggctt gcatcgccag cacccgttct	atcctgtttt ttctcctttt tagtcacggc gcctctctgc ccgcgtttta ttaatgcggt taacaatgcg ggttatgccg tcactatggc cggagcactg	7860 7920 7980 8040 8100 8160 8220 8280
tttccctttt tttttcctct tagctgtgaa agatcaagta gcatattgac agtttatcac ctcatcgtca gtactgccgg gtgctgctag tccgaccgct	accgatgaac ttttttctt ttttttcctt aggtccgtga ctcctgcagg gacccaattc agttaaattg tcctcggcac gcctcttgcg cgctatatgc ttggccgccg	ggggacctaa ttttttttt ttctttcctt gccgcttgac cgcgccacta tcatgtttga ctaacgcagt cgtcaccctg ggatatcgtc gttgatgcaa cccagtcctg	acactccagg ttttttttt tggtggctcc tgcagagagt gtgggaatac cagcttatca caggcaccgt gatgctgtag cattccgaca tttctatgcg ctcgcttcgc	ccaataggcc tttttttt atcttagccc gctgatactg gcggggtatg tcgataagct gtatgaaatc gcataggctt gcatcgccag cacccgttct tacttggagc	atcctgtttt ttctcctttt tagtcacggc gcctctctgc ccgcgtttta ttaatgcggt taacaatgcg ggttatgccg tcactatggc cggagcactg cactatcgac	7860 7920 7980 8040 8100 8160 8220 8280 8340
tttccctttt tttttcctct tagctgtgaa agatcaagta gcatattgac agtttatcac ctcatcgtca gtactgccgg gtgctgctag tccgaccgct tacgcgatca	accgatgaac ttttttctt ttttttcctt aggtccgtga ctcctgcagg gacccaattc agttaaattg tcctcggcac gcctcttgcg cgctatatgc ttggccgccg	ggggacctaa ttttttttt ttctttcctt gccgcttgac cgcgccacta tcatgtttga ctaacgcagt cgtcaccctg ggatatcgtc gttgatgcaa cccagtcctg acccgtcctg	acactccagg ttttttttt tggtggctcc tgcagagagt gtgggaatac cagcttatca caggcaccgt gatgctgtag cattccgaca tttctatgcg ctcgcttcgc tggatcctct	ccaataggcc ttttttttt atcttagccc gctgatactg gcggggtatg tcgataagct gtatgaaatc gcataggctt gcatcgccag cacccgttct tacttggagc acgccggacg	atcctgtttt ttctcctttt tagtcacggc gcctctctgc ccgcgtttta ttaatgcggt taacaatgcg ggttatgccg tcactatggc cggagcactg cactatcgac catcgtggc	7860 7920 7980 8040 8100 8160 8220 8280 8340
tttccctttt tttttcctct tagctgtgaa agatcaagta gcatattgac agtttatcac ctcatcgtca gtactgccgg gtgctgctag tccgaccgct tacgcgatca ggcatcaccg	accgatgaac ttttttctt ttttttcctt aggtccgtga ctcctgcagg gacccaattc agttaaattg tcctcggcac gcctcttgcg cgctatatgc ttggccgccg tggcgaccac gcgccacagg	ggggacctaa ttttttttt ttctttcctt gccgcttgac cgcgccacta tcatgtttga ctaacgcagt cgtcaccctg ggatatcgtc gttgatgcaa cccagtcctg acccgtcctg tgcggttgct	acactccagg ttttttttt tggtggctcc tgcagagagt gtgggaatac cagcttatca caggcaccgt gatgctgtag cattccgaca tttctatgcg ctcgcttcgc tggatcctct ggcgcctata	ccaataggcc tttttttt atcttagccc gctgatactg gcggggtatg tcgataagct gtatgaaatc gcataggctt gcatcgccag cacccgttct tacttggagc acgccggacg tcgccgacat	atcctgtttt ttctcctttt tagtcacggc gcctctctgc ccgcgtttta ttaatgcggt taacaatgcg ggttatgccg tcactatggc cggagcactg cactatcgac catcgtggcc caccgatggg	7860 7920 7980 8040 8100 8220 8280 8340 8460
tttccctttt tttttcctct tagctgtgaa agatcaagta gcatattgac agtttatcac ctcatcgtca gtactgccgg gtgctgctag tccgaccgct tacgcgatca ggcatcaccg gaagatcggg	accgatgaac ttttttctt ttttttctt aggtccgtga ctcctgcagg gacccaattc agttaaattg tcctcggcac gcctcttgcg cgctatatgc ttggccgccg tggcgaccac gcgccacagg ctcgccactt	ggggacctaa ttttttttt ttctttcctt gccgcttgac cgcgccacta tcatgtttga ctaacgcagt cgtcaccctg ggatatcgtc gttgatgcaa cccagtcctg acccgtcctg tgcggttgct cgggctcatg	acactccagg ttttttttt tggtggctcc tgcagagagt gtgggaatac cagcttatca cagcaccgt gatgctgtag cattccgaca tttctatgcg ctcgcttcgc tggatcctct ggcgcctata agcgcttgtt	ccaataggcc tttttttt atcttagccc gctgatactg gcggggtatg tcgataagct gtatgaaatc gcataggctt gcatcgccag cacccgttct tacttggagc acgccggacg tcgccgacat tcggcgtgg	atcctgtttt ttctcctttt tagtcacggc gcctctctgc ccgcgtttta ttaatgcggt taacaatgcg ggttatgccg tcactatggc cggagcactg cactatcgac catcgtggcc caccgatggg tatggtgac	7860 7920 7980 8040 8100 8220 8280 8340 8460 8520 8580
tttccctttt tttttcctct tagctgtgaa agatcaagta gcatattgac agtttatcac ctcatcgtca gtactgccgg gtgctgctag tccgaccgct tacgcgatca ggcatcaccg gaagatcggg ggccccgtgg	accgatgaac ttttttctt ttttttcctt aggtccgtga ctcctgcagg gacccaattc agttaaattg tcctcggcac gcctcttgcg cgctatatgc ttggccgccg tggcgaccac gcgccacagg	ggggacctaa ttttttttt ttctttcctt gccgcttgac cgcgccacta tcatgtttga ctaacgcagt cgtcaccctg ggatatcgtc gttgatgcaa cccagtcctg acccgtcctg tgcggttgct cgggctcatg gttgggcgcc	acactccagg tttttttt tggtggctcc tgcagagagt gtgggaatac cagcttatca caggcaccgt gatgctgtag cattccgaca tttctatgcg ctcgcttcgc tggatcctct ggcgcctata agcgcttgtt atctccttgc	ccaataggcc tttttttt atcttagccc gctgatactg gcggggtatg tcgataagct gtatgaaatc gcataggctt gcatcgccag cacccgttct tacttggagc acgccggacg tcgccgacat tcggcgtggg atgcaccatt	atcctgtttt ttctcctttt tagtcacggc gcctctctgc ccgcgtttta ttaatgcggt taacaatgcg ggttatgccg tcactatggc cggagcactg cactatcgac catcgtggcc caccgatggg tatggtggca ccttgcggcg	7860 7920 7980 8040 8100 8220 8280 8340 8460 8520

gga	gagcgtc	gaccgatgcċ	cttgagagcc	ttcaacccag	tcagctcctt	ccggtgggcg	8760
cgg	ggcatga	ctatcgtcgc	cgcacttatg	actgtcttct	ttatcatgca	actcgtagga	8820
cag	gtgccgg	cagcgctctg	ggtcattttc	ggcgaggacc	gctttcgctg	gagcgcgacg	8880
atg	atcggcc	tgtcgcttgc	ggtattcgga	atcttgcacg	ccctcgctca	agccttcgtc	8940
act	ggtcccg	ccaccaaacg	tttcggcgag	aagcaggcca	ttatcgccgg	catggcggcc	<b>9000</b>
			gctggcgttc				9060
			cggcatcggg				9120
			gggacagctt				9180
			gatcgtcacg				9240
			aggcgccgcc				9300
			cacctcgacc				9360
			ggagccaatc				9420
cca	acccttg	gcagaacata	tccatcgcgt	ccgccatctc	cagcagccgc	acgcggcgca	9480
			tggccacggg				9540
CCC	ggctagg	ctggcggggt	tgccttactg	gttagcagaa	tgaatcaccg	atacqcqaqc	9600
gaa	cgtgaag	cgactgctgc	tgcaaaacgt	ctgcgacctg	agcaacaaca	tgaatggtct	9660
			agtctggaaa				9720
tcc	ggatctg	catcgcagga	tgctgctggc	taccctgtgg	aacacctaca	tctqtattaa	9780
cga	agcgctg	gcattgaccc	tgagtgattt	ttctctqqtc	ccqccqcatc	cataccqcca	9840
			tccagtaacc				9900
			atcggtatca				9960
acg	gaggcat	caagtgacca	aacaggaaaa	aaccgccctt	aacatggccc	gctttatcag	10020
			tggagaaact				10080
			accacgctga				10140
			tctgacacat				10200
			gacaagcccg				10260
			agtcacgtag				10320
gcg	gcatcag	agcagattgt	actgagagtg	caccatatgc	ggtgtgaaat	accgcacaga	10380
tgc	gtaagga	gaaaataccg	catcaggcgc	tcttccgctt	cctcgctcac	tgactcgctg	10440
cgc	tcggtcg	ttcggctgcg	gcgagcggta	tcagctcact	caaaggcggt	aatacggtta	10500
tcc	acagaat	caggggataa	cgcaggaaag	aacatgtgag	caaaaggcca	gcaaaaggcc	10560
agg	aaccgta	aaaaggccgc	gttgctggcg	tttttccata	ggctccgccc	ccctgacgag	10620
			aagtcagagg				10680
cag	gcgtttc	cccctggaag	ctccctcgtg	cgctctcctg	ttccgaccct	gccgcttacc	10740
gga	tacctgt	ccgcctttct	cccttcggga	agcgtggcgc	tttctcatag	ctcacgctgt	10800
agg	tatctca	gttcggtgta	ggtcgttcgc	tccaagctgg	gctgtgtgca	cgaacccccc	10860
gtt	cagcccg	accgctgcgc	cttatccggt	aactatcgtc	ttgagtccaa	cccggtaaga	10920
cac	gacttat	cgccactggc	agcagccact	ggtaacagga	ttagcagagc	gaggtatgta	10980
			gaagtggtgg				11040
			gaagccagtt				11100
			tggtagcggt				11160
			agaagatcct				11220
			agggattttg		tatcaaaaag	gatcttcacc	11280
tag	atccttt	tctagataat	acgactcact	ata			11313

```
<210> 9
<211> 11313
<212> DNA
<213> Artificial Sequence
<220>
<223> Plasmid
```

<400> 9

```
gccagccccc gattgggggc gacactccac catagatcac tcccctgtga ggaactactg
                                                                             60
tetteacgea gaaagegtet agecatggeg ttagtatgag tgtegtgeag cetecaggae
                                                                            120
ccccctccc gggagagcca tagtggtctg cggaaccggt gagtacaccg gaattgccag gacgaccggg tcctttcttg gatcaacccg ctcaatgcct ggagatttgg gcgtgcccc
                                                                            180
                                                                            240
gcgagactgc tagccgagta gtgttgggtc gcgaaaggcc ttgtggtact gcctgatagg
                                                                            300
gtgcttgcga gtgccccggg aggtctcgta gaccgtgcac catgagcacg aatcctaaac
                                                                            360
ctcaaagaaa aaccaaaggg cgcgccatga ttgaacaaga tggattgcac gcaggttctc
                                                                            420
cggccgcttg ggtggagagg ctattcggct atgactgggc acaacagaca atcggctgct 1 480
ctgatgccgc cgtgttccgg ctgtcagcgc aggggcgccc ggttcttttt gtcaagaccg 540
acctgtccgg tgccctgaat gaactgcagg acgaggcagc gcggctatcg tggctggcca
                                                                            600
```

cgacgggcgt	tccttgcgca	gctgtgctcg	acgttgtcac	tgaagcggga	agggactggc	660
tactattaca	casantacca	gggcaggatc	tectateate	tcaccttgct	cctaccasas	720
		gcaatgcggc				780
cattcgacca	ccaagcgaaa	catcgcatcg	agcgagcacg	tactcggatg	gaagccggtc	840
		gacgaagagc				900
		cccgacggcg				960
gcttgccgaa	tatcatggtg	gaaaatggcc	gcttttctqq	attcatcgac	tataaccaac	1020
		caggacatag				1080
ttggcggcga	atgggctgac	cgcttcctcg	tgctttacgg	tategeeget	cccgattcgc	1140
agcgcatcgc	cttctatcgc	cttcttgacg	agttcttctg	agtttaaaca	gaccacaacg	1200
						1260
		attecgeece				
cgaagccgct	tggaataagg	ccggtgtgcg	tttgtctata	tgttatttc	caccatattg	1320
ccatcttta	gcaatgtgag	ggcccggaaa	cctaacccta	tcttcttgac	gagcattcct	1380
aggggtgttt	genetetene	caaaggaatg	caacatatat	tasstataat	232233223	1440
gttcctctgg	aagcttcttg	aagacaaaca	acgtctgtag	cgaccctttg	caggcagcgg	1500
aaccccccac	ctqqcqacaq	gtgcctctgc	ggccaaaagc	cacqtqtata	agatacacct	1560
		gtgccacgtt				1620
tggctctcct	caagegtatt	caacaagggg	ctgaaggatg	cccagaaggt	accccattgt	1680
atgggatctg	atctggggcc	tcggtgcaca	toctttacat	atatttaatc	gaggttaaaa	1740
		cacggggacg				1800
		ctcccaacag				1860
agcctcacag	qccqqqacaq	gaaccaggtc	gaggggagg	tccaaqtqqt	ctccaccqca	1920
		ctgcgtcaat				1980
ggctcaaaga	cccttgccgg	cccaaagggc	ccaatcaccc	aaatgtacac	caatgtggac	2040
caggacctcg	tcqqctqqca	agcgccccc	agaacacatt	ccttgacacc	atqcacctqc	2100
		ggtcacgagg				2160
ggcgacagca	gggggagcct	actctccccc	aggcccgtct	cctacttgaa	gggctcttcg	2220
ggcggtccac	tgctctgccc	ctcggggcac	gctgtgggca	tctttcqqqc	taccatatac	2280
		ggtggacttt				2340
eggteeeegg	tetteaegga	caactcgtcc	cerceggeeg	taccgcagac	attecaggtg	2400
gcccatctac	acgcccctac	tggtagcggc	aagagcacta	aggtgccggc	tgcgtatgca	2460
		tgtcctgaac				2520
		tggtatcgac				2580
accacgggtg	ccccatcac	gtactccacc	tatggcaagt	ttcttgccga	cggtggttgc	2640
		cataatatgt				2700
		cctggaccaa				2760
ctcgccaccg	ctacgcctcc	gggatcggtc	accgtgccac	atccaaacat	cgaggaggtg	2820
		aatccccttt				2880
						2940
		tttctgccat				
aagctgtccg	gcctcggact	caatgctgta	gcatattacc	ggggccttga	tgtatccgtc	3000
ataccaacta	acaaaacat	cattgtcgta	gcaacggacg	ctctaatgac	gggctttacc	3060
						3120
		cgactgcaat				
		tgagacgacg				3180
cagcggcgag	gcaggactgg	taggggcagg	atgggcattt	acaggtttgt	gactccagga	3240
		cgattcctcg				3300
					J J J J	
		cgccgagacc				3360
ccagggttgc	ccgtctgcca	ggaccatctg	gagttctggg	agagcgtctt	tacaggcctc	3420
		cttgtcccag				3480
						3540
		ggtgtgcgcc				
caaatgtgga	agtgtctcat	acggctaaag	cctacgctgc	acgggccaac	gcccctgctg	3600
		aaacgaggtt				3660
						3720
acggcacgca	cgccggccga	cctggaggtc	gccacgagca	cergggrace	ggcaggcgga	
gtcctagcag	ctctggccgc	gtattgcctg	acaacaggca	gcgtggtcat	tgtgggcagg	3780
atcatcttqt	ccqqaaaqcc	ggccatcatt	cccgacaggg	aagteettta	ccaaaaattc	3840
		ctcacacctc				3900
Jacgagacyy	22222222	2004040000		aacayyyaat	acadecedee	
gaacaattca	aacagaaggc	aatcgggttg	ctgcaaacag	ccaccaagca	agcggaggct	3960
gctgctcccq	tggtggaatc	caagtggcgg	accetegaag	ccttctqqqc	gaagcatatg	4020
		acaatattta				4080
ycgatagcat	cactgatggc	attcacagcc	tctatcacca	gcccgctcac	cacccaacat	4140
accetectgt	ttaacatcct	ggggggatgg	gtggccgccc	aacttqctcc	tcccagcgct	4200
gettetgett	tcatagggg	cggcatcgct	ggagcggctg	ttggcagcat	aggettagg	4260
2222222	+cca+a++++	-33535555	22~2~22~~			4320
aayytytteg	Lyyacattit	ggcaggttat	yyagcagggg	rggcaggcgc	goregegee	
tttaaggtca	tgagcggcga	gatgccctcc	accgaggacc	tggttaacct	actccctgct	4380
atcctctccc	ctgacaccct	agtcgtcggg	atcatataca	cagcgatact	gcgtcggcac	4440
atagggggg	addagaaaa	tataceatea	23-3-3-3-5 23-3-3-5	+astsacatt	cacttagaga	4500
gragacceag	222422222	tgtgcagtgg	aryaaccyge	LyaLagoyce	cyccicgcyg	
ggtaaccacg	LCTCCCCCAC	gcactatgtg	cctgagagcg	acqctqcaqc	acgtgtcact	4560

cagatectet	ctagtettae	catcactcag	ctactasaas	ggcttcacca	gtggatcaac	4620
				atgtttggga		4680
gaggactgct	ctatgetatg	ccccggcccg	cggccaagag	tastassass	attace	_
				tcctgccgcg		4740
				ggcgggggga		4800
				tgaaaaacgg		4860
				cattccccat		4920
accacgggcc	cctgcacgcc	ctccccggcg	ccaaattatt	ctagggcgct	gtggcgggtg	4980
gctgctgagg	agtacgtgga	ggttacgcgg	gtgggggatt	tccactacgt	gacgggcatg	5040
				ccgaattctt		5100
				ccctcctacg		5160
				agctcccatg		5220
				cccacattac		5280
				ccagctcatc		5340
						5400
				atgactcccc		5460
				ggaacatcac		5520
				tccaagcgga		
				ggaaattccc		5580
				agtcctggaa		5640
tacgtccctc	cagtggtaca	cgggtgtcca	ttgccgcctg	ccaaggcccc	tccgatacca	5700
				ccgtgtcttc		5760
gagctcgcca	caaagacctt	cggcagctcc	gaatcgtcgg	ccgtcgacag	cggcacggca	5820
acggcctctc	ctgaccagcc	ctccgacgac	ggcgacgcgg	gatccgacgt	tgagtcgtac	5880
tcctccatgc	cccccttga	gggggagccg	ggggatcccg	atctcagcga	cgggtcttgg	5940
tctaccgtaa	gcgaggaggc	tagtgaggac	gtcgtctgct	gctcgatgtc	ctacacatgg	6000
				agctgcccat		6060
agcaactctt	tactccatca	ccacaacttq	gtctatgcta	caacatctcg	cagcgcaagc	6120
				tggacgacca		6180
				ctaaacttct		6240
				aatttggcta		6300
				gctccgtgtg		6360
						6420
				caaaaaatga		6480
				tcgtattccc		6540
grregrarar	gegagaaaat	ggeeetttae	gatgtggtet	ccaccctccc	ccaggeegeg	6600
				gggtcgagtt		
				acacccgctg		6660
acggtcactg	agaatgacat	ccgtgttgag	gagtcaatct	accaatgttg	tgacttggcc	6720
cccgaagcca	gacaggccat	aaggtcgctc	acagagcggc	tttacatcgg	gggccccctg	6780
actaattcta	aagggcagaa	ctgcggctat	cgccggtgcc	gcgcgagcgg	tgtactgacg	6840
accagctgcg	gtaataccct	cacatgttac	ttgaaggccg	ctgcggcctg	tcgagctgcg	6900
				ttgtcgttat		6960
gcggggaccc	aagaggacga	ggcgagccta	cgggccttca	cggaggctat	gactagatac	7020
				tggagttgat		7080
tcctccaatg	tgtcagtcgc	gcacgatgca	tctggcaaaa	gggtgtacta	tctcacccgt	7140
				ctagacacac		7200
					gatcctgatg	7260
				aaaaagccct		7320
					tcaacgactc	7380
					tagggtggct	7440
tcatgcctca	ggaaacttgg	agtaccacc	ttacaaatct	ggagacatcg	ggccagaagt	7500
					gtacctcttc	7560
						7620
					ccagttggat	7680
				tatatcacag		7740
				ctgtaggggt		7800
					atcctgtttt	
					ttctcctttt	7860
					tagtcacggc	7920
					gcctctctgc	7980
					ccgcgtttta	8040
gcatattgac	gacccaattc	tcatgtttga	cagcttatca	tcgataagct	ttaatgcggt	8100
agtttatcac	agttaaattg	ctaacgcagt	caggcaccgt	gtatgaaatc	taacaatgcg	8160
					ggttatgccg	8220
					tcactatggc	8280
					cggagcactg	8340
					cactatcgac	8400
					catcgtggcc	8460
					caccgatggg	8520
25	J		JJ - J J w	J J	5 - 555	

gaagatcggg	ctcqccactt	cgggctcatg	agcgcttgtt	tcqqcqtqqq	tatggtggca	8580
		gttgggcgcc				8640
		cctactactg				8700
		cttgagagcc				8760
		egeacttatg				9920
		ggtcattttc				8880
		ggtattcgga				8940
		tttcggcgag				9000
		gctggcgttc				9060
		cggcatcggg				9120
		gggacagctt				9180
		gatcgtcacg				9240
		aggcgccgcc				9300
		cacctcgacc				9360
		ggagccaatc				9420
		tccatcgcgt				9480
		tggccacggg				9540
cccaactaga	ctaacaaaat	tgccttactg	gttagcagaa	tgaatcaccg	atacqcqaqc	9600
		tgcaaaacgt				9660
		agtctggaaa				9720
		tgctgctggc				9780
		tgagtgattt				9840
		tccagtaacc				9900
tgagcatcct	ctctcqtttc	atcggtatca	ttacccccat	gaacagaaat	tcccccttac	9960
acqqaqqcat	caaqtqacca	aacaggaaaa	aaccqccctt	aacatggccc	gctttatcag	10020
		tggagaaact				10080
catctgtgaa	tcgcttcacg	accacgctga	tgagctttac	cgcagctgcc	tcgcgcgttt	10140
cggtgatgac	ggtgaaaacc	tctgacacat	gcagctcccg	gagacggtca	cagcttgtct	10200
gtaagcggat	gccgggagca	gacaagcccg	tcagggcgcg	tcagcgggtg	ttggcgggtg	10260
teggggegea	gccatgaccc	agtcacgtag	cgatagcgga	gtgtatactg	gcttaactat	10320
		actgagagtg				10380
tgcgtaagga	gaaaataccg	catcaggcgc	tcttccgctt	cctcgctcac	tgactcgctg	10440
cgctcggtcg	ttcggctgcg	gcgagcggta	tcagctcact	caaaggcggt	aatacggtta	10500
tccacagaat	caggggataa	cgcaggaaag	aacatgtgag	caaaaggcca	gcaaaaggcc	10560
aggaaccgta	aaaaggccgc	gttgctggcg	tttttccata	ggctccgccc	ccctgacgag	10620
catcacaaaa	atcgacgctc	aagtcagagg	tggcgaaacc	cgacaggact	ataaagatac	10680
		ctccctcgtg				10740
		cccttcggga				10800
		ggtcgttcgc				10860
gttcagcccg	accgctgcgc	cttatccggt	aactatcgtc	ttgagtccaa	cccggtaaga	10920
cacgacttat	cgccactggc	agcagccact	ggtaacagga	ttagcagagc	gaggtatgta	10980
ggcggtgcta	cagagttctt	gaagtggtgg	cctaactacg	gctacactag	aaggacagta	11040
tttggtatct	gcgctctgct	gaagccagtt	accttcggaa	aaagagttgg	tagctcttga	11100
tccggcaaac	aaaccaccgc	tggtagcggt	ggtttttttg	tttgcaagca	gcagattacg	11160
cgcagaaaaa	aaggatctca	agaagatcct	ttgatctttt	ctacggggtc	tgacgctcag	11220
				tatcaaaaag	gatcttcacc	11280
tagatccttt	tctagataat	acgactcact	ata			11313
	0. 10					
	0> 10					
	1> 11313					
	2> DNA 2> Artifici	al Camianco				
<21.	2> WICITICI	al Sequence				

```
<223> Plasmid

<400> 10

gccagccccc gattgggggc gacactccac catagatcac tcccctgtga ggaactactg 60
tcttcacgca gaaagcgtct agccatggcg ttagtatgag tgtcgtgcag cctccaggac 120
ccccctccc gggagagcca tagtggtctg cggaaccggt gagtacaccg gaattgccag 180
gacgaccggg tcctttcttg gatcaacccg ctcaatgcct ggagatttgg gcgtgcccc 240
gcgagactgc tagccgagta gtgttgggtc gcgaaaggcc ttgtggtact gcctgatagg 300
gtgcttgcga gtgccccggg aggtctcgta gaccgtgcac catgagcacg aatcctaaac 360
ctcaaagaaa aaccaaaggg cgcgccatga ttgaacaaga tggattgcac gcaggttctc 420
```

<220>

		ctattcggct				480
		ctgtcagcgc				540
		gaactgcagg				600
		gctgtgctcg				660
		gggcaggatc				720
		gcaatgcggc				780
		catcgcatcg gacgaagagc				840 900
		cccgacggcg				960
		gaaaatggcc				1020
		caggacatag				1080
		cgcttcctcg				1140
agcgcatcgc	cttctatcgc	cttcttgacg	agttcttctg	agtttaaaca	gaccacaacg	1200
gtttccctct	agcgggatca	attccgcccc	tctccctccc	cccccctaa	cgttactggc	1260
		ccggtgtgcg				1320
		ggcccggaaa				1380
		caaaggaatg				1440
		aagacaaaca				1500
		gtgcctctgc				1560
		gtgccacgtt				1620 1680
		caacaagggg tcggtgcaca				1740
		cacggggacg				1800
		ctcccaacag				1860
		gaaccaggtc				1920
		ctgcgtcaat				1980
		cccaaagggc				2040
		agcgcccccc				2100
		ggtcacgagg				2160
		actctcccc				2220
		ctcggggcac				2280
		ggtggacttt				2340 2400
		caactcgtcc tggtagcggc				2460
		tgtcctgaac				2520
		tggtatcgac				2580
		gtactccacc				2640
		cataatatgt				2700
		cctggaccaa				2760
		gggatcggtc				2820
		aatccccttt				2880
		tttctgccat				2940
aagctgtccg	gcctcggact	caatgctgta	gcatattacc	ggggccttga	tgtatccgtc	3000
		cattgtcgta				3060 3120
		cgactgcaat				3120
		tgagacgacg taggggcagg				3240
		cgattcctcg				3300
		cgccgagacc				3360
		ggaccatctg				3420
acccacatag	acgcccattt	cttgtcccag	actaagcagg	caggagacaa	cttcccctac	3480
		ggtgtgcgcc				3540
		acggctaaag				3600
		aaacgaggtt				3660
		cctggaggtc				3720 3780
		gtattgcctg ggccatcatt				3840
		ctcacacctc				3900
		aatcgggttg				3960
		caagtggcgg				4020
tggaatttca	tcagcgggat	acaatattta	gcaggcttqt	ccactctgcc	tggcaacccc	4080
		attcacagcc				4140
accctcctgt	ttaacatcct	ggggggatgg	gtggccgccc	aacttgctcc	tcccagcgct	4200
gcttctgctt	tcgtaggcgc	cggcatcgct	ggagcggctg	ttggcagcat	aggccttggg	4260
		ggcaggttat				4320
tttaaggtca	tgagcggcga	gatgccctcc	accgaggacc	tggttaacct	actccctgct	4380

atcctctccc	ctggcgccct	agtcgtcggg	atcatataca	cagcgatact	gcgtcggcac	4440
	gggaggggc					4500
	tctccccac					4560
	ctagtcttac					4620
gaggactgct	ccacgccatg	ctccggctcg	tggctaagag	atgtttggga	ttggatatgg	4680
	ctgatttcaa					4740
gtccccttct	tctcatgtca	acgtgggtac	aagggagtct	ggcggggcga	cggcatcatg	4800
caaaccacct	gcccatgtgg	agcacagatc	accggacatg	tgaaaaacgg	ttccatgagg	4860
atcgtggggc	ctaggacctg	tagtaacacg	tggcatggaa	cattccccat	taacgcgtac	4920
accacgggcc	cctgcacgcc	ctccccggcg	ccaaattatt	ctagggcgct	gtggcgggtg	4980
	agtacgtgga					5040
_	acgtaaagtg			_		5100
	ggttgcacag					5160
acattcctgg	tcgggctcaa	tcaatacctg	gttgggtcac	agctcccatg	cgagcccgaa	5220
ccggacgtag	cagtgctcac	ttccatgctc	accgacccct	cccacattac	ggcggagacg	5280
	ggctggccag					5340
	cttccttgaa					5400
	ccaacctcct					5460
	aggtagtaat					5520
	ccgttccggc					5580
	cacgcccgga					5640
	: cagtggtaca					5700
	ggaagaggac					5760 5820
gagetegeea	caaagacctt	eggeagetee	gaatcgtcgg	ccgccgacag	eggeaeggea	5820 5880
	ctgaccagcc					5940
	cccccttga					6000
	gcgaggaggc					6060
	tgatcacgcc					6120
ageaactett	tgctccgtca	ceacaactty	gtetatgeta	tagagagaga	cagegeaage	6180
ctgcggcaga	agaaggtcac	gaagggatag	acacttaacc	ctasacttct	atccatagea	6240
	g agatgaaggc a agctgacgcc					6300
gaageeege	acctatccag	caeacacccg	aaccacatcc	actecatata	gaaggacttg	6360
gacgcccgga	ctgagacacc	aattgacacc	accatcatcc	caaaaaatga	gatggacceg	6420
	g agaagggggg					6480
	gcgagaaaat					6540
	catacggatt					6600
	g cgaagaaatg					6660
	g agaatgacat					6720
	gacaggccat					6780
actaattcta	aagggcagaa	ctgcggctat	caccaatacc	qcqcqaqcqq	tgtactgacg	6840
accagetge	gtaataccct	cacatgttac	ttgaaggccg	ctgcggcctg	tcgagctgcg	6900
aagctccag	g actgcacgat	gctcgtatgc	ggagacgacc	ttgtcgttat	ctgtgaaagc	6960
	aagaggacga					7020
tetgecece	ctggggaccc	gcccaaacca	gaatacgact	tggagttgat	aacatcatgc	7080
tcctccaat	g tgtcagtcgc	gcacgatgca	tctggcaaaa	gggtgtacta	tctcacccgt	7140
gaccccacca	a ccccccttgc	gcgggctgcg	tgggagacag	ctagacacac	tccagtcaat	7200
	g gcaacatcat					7260
	tctccatcct					7320
	g cctgttactc					7380
catggcctta	a gcgcattttc	actccatagt	tactctccag	gtgagatcaa	tagggtggct	7440
tcatgcctca	a ggaaacttgg	ggtaccgccc	ttgcgagtct	ggagacatcg	ggccagaagt	7500
	a ggctactgtc					7560
	g taaggaccaa					7620
	t ggttcgttgc					7680
	c gctggttcat					7740
	a accgatgaac					7800 7860
	t tttttttctt					7860
	t ttttttcctt					7920
	a aggtccgtga					7980 8040
	a ctcctgcagg					8100
	c gacccaatto					8160
	c agttaaattg					8220
	a teeteggead					8280
gracigoog	g gcctcttgcg g cgctatatgc	ggatattgtt	tttatataa	geaccyceay	cadadcacta	8340
a caccacra	₅ ogceatatyt	ucgcaa	Juliualycy	Jackey	~	55.15

tccgaccgct	ttggccgccg	cccagtcctg	ctcgcttcgc	tacttggagc	cactatcgac	8400
tacgcgatca	tggcgaccac	accegteetg	tggatcctct	acgccggacg	catcataacc	8460
ggcatcaccg	gcgccacagg	tgcggttgct	ggcgcctata	tcgccgacat	caccgatggg	8520
gaagatcggg	ctcgccactt	cgggctcatg	agcgcttgtt	tcggcgtggg	tatggtggca	8580
ggccccgtgg	ccgggggact	gttgggcgcc	atctccttqc	atgcaccatt	cettacaaca	8640
gcggtgctca	acggcctcaa	cctactactg	ggctgcttcc	taatgcagga	gtcgcataag	8700
ggagagcgtc	gaccgatgcc	cttgagagcc	ttcaacccag	tcagctcctt	ccaataaaca	8760
cggggcatga	ctatcgtcgc	cgcacttatg	actgtcttct	ttatcatgca	actcotagga	8820
caggtgccgg	cagcgctctg	ggtcattttc	ggcgaggacc	gctttcgctg	gagcgcgacg	8880
atgatcggcc	tgtcgcttqc	ggtattcgga	atcttqcacq	ccctcgctca	agcettegte	8940
actggtcccg	ccaccaaacg	tttcqqcqaq	aagcaggcca	ttatcgccgg	catagcagcc	9000
gacgcgctqq	gctacgtctt	actagcatto	acascacasa	gctggatggc	cttccccatt	9060
				tgcaggccat		9120
caggtagatg	acgaccatca	qqqacaqctt	caaqqatcqc	tcgcggctct	taccagecta	9180
acttcqatca	ctqqaccqct	gatcgtcacg	gcgatttatg	ccgcctcggc	gagcacatgg	9240
aacgggttgg	catggattgt	aggcgccgcc	ctataccttq	tctgcctccc	cacattacat	9300
cacaatacat	agagccagac	cacctcgacc	tgaatggaag	ccggcggcac	ctcactaaca	9360
gattcaccac	tccaagaatt	ggagccaatc	aattettaca	gagaactgtg	aatococaaa	9420
ccaaccetta	gragaacata	tccatcacat	ccccatctc	cagcagccgc	aacycycaaa	9480
tetegggeag	cattagatea	tagaaaaaaa	tagagataat	cgtgctcctg	tasttassas	
cccaacteaa	atagagagat	tagettage	attagangan	tantana	cegeegagga	9540
ceeggeragg	cragragaga	tgeettaetg	gitageagaa	tgaatcaccg	atacgcgagc	9600
baacytyaay	tatta	Lgcaaaacgt	ergegaeerg	agcaacaaca	tgaatggtct	9660
teggetteeg	tgtttcgtaa	agtetggaaa	cgcggaagtc	agcgccctgc	accattatgt	9720
teeggatetg	caccgcagga	rgergergge	taccetgtgg	aacacctaca	tctgtattaa	9780
cgaagegetg	gcattgaccc	tgagtgattt	ttetetggte	ccgccgcatc	cataccgcca'	9840
gttgtttacc	ctcacaacgt	tccagtaacc	gggcatgttc	atcatcagta	acccgtatcg	9900
tgagcatcct	ctctcgtttc	atcggtatca	ttacccccat	gaacagaaat	tcccccttac	9960
acggaggcat	caagtgacca	aacaggaaaa	aaccgccctt	aacatggccc	gctttatcag	10020
aagccagaca	ttaacgcttc	tggagaaact	caacgagctg	gacgcggatg	aacaggcaga	10080
catctgtgaa	tcgcttcacg	accacgctga	tgagctttac	cgcagctgcc	tcgcgcgttt	10140
cggtgatgac	ggtgaaaacc	tctgacacat	gcagctcccg	gagacggtca	cagcttgtct	10200
gtaagcggat	gccgggagca	gacaagcccg	tcagggcgcg	tcagcgggtg	ttggcgggtg	10260
tcggggcgca	gccatgaccc	agtcacgtag	cgatagcgga	gtgtatactg	gcttaactat	10320
gcggcatcag	agcagattgt	actgagagtg	caccatatgc	ggtgtgaaat	accgcacaga	10380
tgcgtaagga	gaaaataccg	catcaggcgc	tcttccgctt	cctcgctcac	tgactcgctg	10440
cgctcggtcg	ttcggctgcg	gcgagcggta	tcagctcact	caaaggcggt	aatacggtta	10500
tccacagaat	caggggataa	cgcaggaaag	aacatgtgag	caaaaggcca	qcaaaaqqcc	10560
aggaaccgta	aaaaggccgc	gttgctgqcq	tttttccata	ggctccgccc	ccctgacgag	10620
catcacaaaa	atcgacgctc	aagtcagagg	tggcgaaacc	cgacaggact	ataaagatac	10680
caggcgtttc	cccctqqaaq	ctccctcata	cactetecta	ttccgaccct	gccgcttacc	10740
ggatacctgt	ccacctttct	cccttcggga	agcatagcac	tttctcatag	ctcacactat	10800
aggtatctca	attcaatata	gatcattcac	tccaagctgg	gctgtgtgca	cgaacccccc	10860
gttcagcccg	accoctococ	cttatccggt	aactatcgtc	ttgagtccaa	cccaataaaa	10920
cacgacttat	caccactage	agcagccact	adctacogco	ttagcagagc	gaggtatga	10920
gacagtacta	cagagetett	geagecace	cctaactaca	gctacactag	gaggcacgca	
tttaatatat	agagatataat	gaageggegg	acettaccacc	aaagagttgg	taggacagta	11040 11100
tccggcaccc	aaaccaccac	taataaaat	accttcggaa	tttgcaagca	cagecettga	
cccggcaaac	aaaccaccgc	agaagagaga	ttastattt	ctacggggtc	geagactaeg	11160
togaaaaaa	aayyacctca	agaagateet	ctgatcttt	ctacggggte	tgacgeteag	11220
tagatagta	tataastast	agggattttg	greatgagat	tatcaaaaag	gatetteace	11280
Layacccctt	tctagataat	acgaeteaet	aca			11313
<210	)> 11					
	> 11184					
	2> DNA					
	> Artificia	al Seguence				
- <b></b>						
<220	)>					

```
<212> DNA
<213> Artificial Sequence
<220>
<223> Plasmid
<400> 11
agccccc gattgggggc gacactccac ca
```

gccagccccc gattggggc gacactccac catagatcac tcccctgtga ggaactactg 60 tcttcacgca gaaagcgtct agccatggcg ttagtatgag tgtcgtgcag cctccaggac 120 ccccctccc gggagagcca tagtggtctg cggaaccggt gagtacaccg gaattgccag 180 gacgaccggg tcctttcttg gatcaacccg ctcaatgcct ggagatttgg gcgtgcccc 240

gcgagactgc	tagccgagta	gtgttgggtc	gcgaaaggcc	ttgtggtact	gcctgatagg	300
gtgcttgcga	. gtgccccggg	aggtctcgta	gaccgtgcac	catgagcacg	aatcctaaac	360
ctcaaagaaa	aaccaaaggg	cgcgccatga	ttgaacaaga	tggattgcac	gcaggttctc	420
cggccgcttg	ggtggagagg	ctattcggct	atgactgggc	acaacagaca	atcggctgct	480
ctgatgccgc	cgtgttccgg	ctgtcagcgc	aggggcgccc	ggttcttttt	gtcaagaccg	540
acctgtccgg	tgccctgaat	gaactgcagg	acgaggcagc	gcggctatcg	tggctggcca	600
cgacgggcgt	tecttgegea	gctgtgctcg	acgttgtcac	tgaagcggga	agggactggc	660
nagtatagast	cgaagtgccg	gggcaggatc	teetgteate	TCACCTTGCT	cctgccgaga	720
cattccacca	catggctgat	gcaatgegge	ggetgeatae	gerrgareeg	gctacctgcc	780
ttatcatca	ccaagcgaaa ggatgatctg	gardaagag	atcaccacc	cacceggatg	gaageeggee	840 900
ccaggctcaa	ggcgcgcatg	accascaca	aggatetegt	cataacccat	gaactgeteg	960
gcttgccgaa	tatcatggtg	gaaaatggcc	acttttctaa	attcatcgac	tataaccaac	1020
taggtatage	ggaccgctat	caggacatag	cattaactac	ccataatatt	gctgaagagc	1080
ttggcggcga	atgggctgac	cgcttcctcg	tgctttacgg	tatcgccgct	cccqattcqc	1140
agcgcatcgc	cttctatcgc	cttcttgacg	agttcttctg	agtttaaaca	gaccacaacg	1200
gtttccctct	agcgggatca	attccgcccc	tctccctccc	cccccctaa	cgttactggc	1260
	tggaataagg					1320
	gcaatgtgag					1380
	cccctctcgc					1440
gttcctctgg	aagcttcttg	aagacaaaca	acgtctgtag	cgaccctttg	caggcagcgg	1500
aaccccccac	ctggcgacag	gtgcctctgc	ggccaaaagc	cacgtgtata	agatacacct	1560
	cacaacccca					1620
	caagcgtatt					1680
	atctggggcc					1740 1800
	ccccccgaac ttacggccta					1860
	gccgggacag					1920
acacaatctt	tcctggcgac	ctgcgtcaat	aacatatatt	ggactgtcta	tcatogtocc	1980
ggctcaaaga	cccttgccgg	cccaaagggc	ccaatcaccc	aaatqtacac	caatqtqqac	2040
	tcggctggca					2100
ggcagctcgg	acctttactt	ggtcacgagg	catgccgatg	tcattccggt	gcgccggcgg	2160
ggcgacagca	gggggagcct	actctccccc	aggcccgtct	cctacttgaa	gggctcttcg	2220
	tgctctgccc					2280
acccgagggg	ttgcgaaggc	ggtggacttt	gtacccgtcg	agtctatgga	aaccactatg	2340
cggtccccgg	tcttcacgga	caactcgtcc	cctccggccg	taccgcagac	attccaggtg	2400
gcccatctac	acgcccctac	tggtagcggc	aagagcacta	aggtgccggc	tgcgtatgca	2460
	ataaggtgct					2520
	ctaaggcaca					2580 2640
	cccccatcac cctatgacat					2700
atcctgggga	tcggcacagt	cctggaccaa	acadadacac	ctggagggg	actcatcata	2760
	ctacgcctcc					2820
	gcactggaga					2880
	ggcacctcat					2940
aagctgtccg	gcctcggact	caatgctgta	gcatattacc	ggggccttga	tgtatccgtc	3000
ataccaacta	gcggagacgt	cattgtcgta	gcaacggacg	ctctaatgac	gggctttacc	3060
	actcagtgat					3120
ctggacccga	ccttcaccat	tgagacgacg	accgtgccac	aagacgcggt	gtcacgctcg	3180
	gcaggactgg					3240
gaacggccct	cgggcatgtt	cgattcctcg	gttctgtgcg	agtgctatga	cgcgggctgt	3300
gcttggtacg	agctcacgcc	cgccgagacc	tcagttaggt	tgcgggctta	cctaaacaca	3360
ceaggginge	ccgtctgcca	ggaccatetg	gagttetggg	agagegtett	tacaggcctc	3420 3480
ctootageat	acgcccattt accaggctac	agtatacaca	accaageagg	caggagacaa	ataataaaa	3540
	agtgtctcat					3600
tataggetgg	gagccgttca	aaacgaggtt	actaccacac	accccataac	caaatacatc	3660
atggcatgca	tgtcggctga	cctggaggtc	gtcacgagea	cctagatact	ggtaggggaa	3720
gtcctagcag	ctctggccgc	gtattgcctq	acaacaqqca	gcgtggtcat	tgtgggcagg	3780
atcatcttgt	ccggaaagcc	ggccatcatt	cccgacaggg	aagtccttta	ccgggagttc	3840
gatgagatgg	aagagtgcgc	ctcacacctc	ccttacatcg	aacagggaat	gcagctcgcc	3900
gaacaattca	aacagaaggc	aatcgggttg	ctgcaaacag	ccaccaagca	agcggaggct	3960
gctgctcccg	tggtggaatc	caagtggcgg	accctcgaag	ccttctgggc	gaagcatatg	4020
tggaatttca	tcagcgggat	acaatattta	gcaggcttgt	ccactctgcc	tggcaacccc	4080
gcgatagcat	cactgatggc	attcacagcc	tctatcacca	gcccgctcac	cacccaacat	4140
accelecte	ttaacatcct	gggggatgg	grggccgccc	aacttgctcc	tcccagcgct	4200

gcttctgctt	tcgtaggcgc	cggcatcgct	ggagcggctg	ttggcagcat	aggccttggg	4260
				tggcaggcgc		4320
tttaaggtca	tgagcggcga	gatgccctcc	accgaggacc	tggttaacct	actccctgct	4380
atcctctccc	ctggcgccct	agtcgtcggg	gtcgtgtgcg	cagcgatact	gcgtcggcac	4440
				tgatagcgtt		4500
				acgctgcagc		4560
				ggcttcacca		4620
				atgtttggga		4680
acggtgttga	ctgatttcaa	gacctggctc	cagtccaagc	teetgeegeg	attgccggga	4740
				ggcggggcga		4800
				tgaaaaacgg		4860
				cattccccat		4920
				ctagggcgct		4980
				tccactacgt		5040 5100
				ccgaattctt		5160
				ccctcctacg agctcccatg		5220
				cccacattac		5280
				ccagctcatc		5340
				atgactcccc		5400
				ggaacatcac		5460
tcagaaaata	aggtagtaat	tttqqaqtct	ttcqaqccqc	tccaagcgga	ggaggatgag	5520
				ggaaattccc		5580
				agtcctggaa		5640
				ccaaggcccc		5700
				ccgtgtcttc		5760
gagctcgcca	caaagacctt	cggcagctcc	gaatcgtcgg	ccgtcgacag	cggcacggca	5820
acggcctctc	ctggtgagga	cgtcgtctgc	tgctcgatgt	cctacacatg	gacaggcgcc	5880
				tcaatgcact		5940
				gcagcgcaag		6000
				actaccggga		6060
				tatccgtgga		6120
				atggggcaaa		6180
				ggaaggactt		6240 6300
				aggttttctg		6360
				cagatttggg ctcaggccgt		6420
				tcctggtgaa		6480
				gttttgactc		6540
				gtgacttggc		6600
				ggggcccct		6660
				gtgtactgac		6720
				gtcgagctgc		6780
				tctgtgaaag		6840
caagaggacg	aggcgagcct	acgggccttc	acggaggcta	tgactagata	ctctgccccc	6900
				taacatcatg		6960
				atctcacccg		7020
				ctccagtcaa		7080
				tgatcctgat		7140
				tagattgtca		7200 7260
				ttcaacgact		7260
				atagggtggc		7320
				gggccagaag agtacctctt		7440
				cccagttgga		7500
				gcctgtctcg		7560
				taggcatcta		7620
				catcctgttt		7680
tttttttct	titittttt	tttttttt	tttttttt	tttctccttt	tttttcctc	7740
tttttttcct	tttctttcct	ttggtggctc	catcttagcc	ctagtcacgg	ctagctgtga	7800
aaggtccgtg	agccgcttga	ctgcagagag	tgctgatact	ggcctctctg	cagatcaagt	7860
actcctgcag	gcgcgccact	agtgggaata	cgcggggtat	gccgcgtttt	agcatattga	7920
cgacccaatt	ctcatgtttg	acagcttatc	atcgataagc	tttaatgcgg	tagtttatca	7980
cagttaaatt	gctaacgcag	tcaggcaccg	tgtatgaaat	ctaacaatgc	gctcatcgtc	8040
atcctcggca	ccgtcaccct	ggatgctgta	ggcataggct	tggttatgcc	ggtactgccg	8100
ggcctcttgc	gggatatcgt	ccattccgac	agcatcgcca	gtcactatgg	cgtgctgcta	8160

	cgttgatgca					8220
tttggccgcc	gcccagtcct	gctcgcttcg	ctacttggag	ccactatcga	ctacgcgatc	8280
atggcgacca	cacccgtcct	gtggatcctc	tacgccggac	gcatcgtggc	cggcatcacc	8340
ggcgccacag	gtgcggttgc	tggcgcctat	atcgccgaca	tcaccgatgg	ggaagatcgg	8400
	tcgggctcat					8460
gccgggggac	tgttgggcgc	catctccttg	catgcaccat	tccttgcggc	ggcggtgctc	8520
aacggcctca	acctactact	gggctgcttc	ctaatgcagg	agtcgcataa	gggagagcgt	8580
	ccttgagagc					8640
actatcgtcg	ccgcacttat	gactgtcttc	tttatcatgc	aactcgtagg	acaggtgccg	8700
gcagcgctct	gggtcatttt	cggcgaggac	cgctttcgct	ggagcgcgac	gatgatcggc	8760
ctgtcgcttg	cggtattcgg	aatcttgcac	gccctcgctc	aagccttcgt	cactggtccc	8820
gccaccaaac	gtttcggcga	gaagcaggcc	attatcgccg	gcatggcggc	cgacgcgctg	8880
ggctacgtct	tgctggcgtt	cgcgacgcga	ggctggatgg	ccttccccat	tatgattctt	8940
ctcgcttccg	gcggcatcgg	gatgcccgcg	ttgcaggcca	tgctgtccag	gcaggtagat	9000
gacgaccatc	agggacagct	tcaaggatcg	ctcgcggctc	ttaccagcct	aacttcgatc	9060
actggaccgc	tgatcgtcac	ggcgatttat	gccgcctcgg	cgagcacatg	gaacgggttg	9120
	taggcgccgc					9180
tggagccggg	ccacctcgac	ctgaatggaa	gccggcggca	cctcgctaac	ggattcacca	9240
ctccaagaat	tggagccaat	caattcttgc	ggagaactgt	gaatgcgcaa	accaaccctt	9300
ggcagaacat	atccatcgcg	tccgccatct	ccagcagccg	cacgcggcgc	atctcgggca	9360
gcgttgggtc	ctggccacgg	gtgcgcatga	tcgtgctcct	gtcgttgagg	accoggotag	9420
gctggcgggg	ttgccttact	ggttagcaga	atgaatcacc	gatacgcgag	cgaacgtgaa	9480
	ctgcaaaacg					9540
gtgtttcgta	aagtctggaa	acgcggaagt	cagcgccctg	caccattatg	ttccggatct	9600
gcatcgcagg	atgctgctgg	ctaccctgtg	gaacacctac	atctgtatta	acgaagcgct	9660
ggcattgacc	ctgagtgatt	tttctctggt	cccgccgcat	ccataccgcc	agttgtttac	9720
	ttccagtaac					9780
tctctcgttt	catcggtatc	attaccccca	tgaacagaaa	ttccccctta	cacggaggca	9840
tcaagtgacc	aaacaggaaa	aaaccgccct	taacatggcc	cgctttatca	gaagccagac	9900
	ctggagaaac					9960
	gaccacgctg					10020
	ctctgacaca					10080
	agacaagccc					10140
agccatgacc	cagtcacgta	gcgatagcgg	agtgtatact	ggcttaacta	tgcggcatca	10200
	tactgagagt					10260
	gcatcaggcg					10320
	ggcgagcggt					10380
	acgcaggaaa					10440
	cgttgctggc					10500
	caagtcagag					10560
	gctccctcgt					10620
	tcccttcggg					10680
	aggtcgttcg					10740
gaccgctgcg	ccttatccgg	taactatcgt	cttgagtcca	accoggtaag	acacgactta	10800
	cagcagccac					10860
	tgaagtggtg					10920
	tgaagccagt					10980
	ctggtagcgg					11040
aaaggatctc	aagaagatcc	tttgatcttt	tctacggggt	ctgacgctca	gtggaacgaa	11100
	aagggatttt					11160
	tacgactcac				<del>-</del>	11184
-	<del>-</del>					

```
<210> 12
<211> 11313
<212> DNA
<213> Artificial Sequence
<220>
<223> Plasmid
```

<400> 12

gccagcccc gattggggc gacactccac catagatcac tcccctgtga ggaactactg 60 tcttcacgca gaaagcgtct agccatggcg ttagtatgag tgtcgtgcag cctccaggac 120 ccccctccc gggagagcca tagtggtctg cggaaccggt gagtacaccg gaattgccag 180

gacgaccggg	tectttcttg	gatcaacccg	ctcaatgcct	ggagatttgg	gcgtgcccc	240
gcgagactgc	tagccgagta	gtgttgggtc	gcgaaaggcc	ttgtggtact	gcctgatagg	300
				catgagcacg		360
ctcaaagaaa	aaccaaaggg	cgcgccatga	ttgaacaaga	tggattgcac	gcaggttctc	420
cggccgcttg	ggtggagagg	ctattcggct	atgactgggc	acaacagaca	atcggctgct	480
ctgatgccgc	cgtgttccgg	ctgtcagcgc	aggggcgccc	ggttcttttt	gtcaagaccg	540
				gcggctatcg		600
				tgaagcggga		660
				tcaccttgct		720
				gcttgatccg		780
				tactcggatg		840
ttgtcgatca	ggatgatctg	gacgaagagc	atcaggggct	cgcgccagcc	gaactgttcg	900
				cgtgacccat		960
				attcatcgac		1020
				ccgtgatatt		1080 1140
				tatcgccgct		1200
				agtttaaaca cccccctaa		1260
				tgttattttc		1320
				tcttcttgac		1380
				tgaatgtcgt		1440
				cgaccctttg		1500
				cacgtgtata		1560
				tagttgtgga		1620
				cccagaaggt		1680
				gtgtttagtc		1740
				ttgaaaaaca		1800
atggcgccta	ttacggccta	ctcccaacag	acgcgaggcc	tacttggctg	catcatcact	1860
				tccaagtggt		1920
				ggactgtcta		1980
				aaatgtacac		2040
				ccttgacacc		2100
				tcattccggt		2160
				cctacttgaa		2220 2280
				tettteggge		2340
				agtctatgga taccgcagac		2400
				aggtgccggc		2460
				ccgccaccct		2520
				gaaccggggt		2580
				ttcttgccga		2640
				actcaactga		2700
atcctgggca	tcggcacagt	cctggaccaa	gcggagacgg	ctggagcgcg	actcgtcgtg	2760
				atccaaacat		2820
				ccatccccat		2880
				aatgtgatga		2940
				ggggccttga		3000
				ctctaatgac		3060
				cccagacagt		3120 3180
				aagacgcggt acaggtttgt		3240
				agtgctatga		3300
				tgcgggctta		3360
				agagcgtctt		3420
				caggagacaa		3480
				ctccacctcc		3540
				acgggccaac		3600
tataggctgg	gagccgttca	aaacgaggtt	actaccacac	accccataac	caaatacatc	3660
atggcatgca	tgtcagctga	cctggaggtc	gtcacgagca	cctgggtgct	ggtaggcgga	
				gcgtggtcat		3780
atcatcttgt	ccggaaagcc	ggccatcatt	cccgacaggg	aagtctttta	ccgggagttc	3840
				aacggggaat		3900
gaacatttca	aacagaaggc	aatcgggttg	ctgcaaacag	ccaccaagca	agcggaggct	3960
getgeteeeg	tancarate	caagtggcgg	accetegaag	ccttctgggc	gaagcatatg	4020
regatered	cactostos	acaatattta	gcaggcttgt	ccactctgcc	rggcaacccc	4080
gcgacagcac	cactgatggc	acceacagee	LCLALCACCA	gcccgctcac	Cacceaacat	4140

accctcctgt	ttaacatcct	ggggggatgg	gtggccgccc	aacttgctcc	tcccagcgct	4200
gcttctgctt	tcgtaggcgc	cggcatcgct	ggagcggctg	ttggcagcat	aggccttggg	4260
aaggtgcttg	tggatatttt	ggcaggttat	ggagcagggg	tggcaggcgc	gctcgtggcc	4320
tttaaggtca	tgagcggcga	gatgccctcc	accgaggacc	tggttaacct	actccctgct	4380
atcetetee	ctggcgccct	agtcgtcggg	gregrataca	cagcgatact	gegteggeae	4440
gryggeeeag	totogogogo	tgtgcagtgg	acgaaccggc	rgatageget	egettegegg	4500
cagatectet	ctagtcttac	gcactatgtg catcactcag	ctactasaas	acgetgeage	acgugueacu	4560 4620
gaggactgct	ccacgccatg	ctccggctcg	tagctaagag	atatttaga	transtatac	4680
acqqtqttqa	ctgatttcaa	gacctggctc	cagtccaage	tectaceaca	attoccoooa	4740
gtccccttct	tctcatgtca	acgtgggtac	aagggagtct	ggcggggcga	cggcatcatg	4800
caaaccacct	gcccatgtgg	agcacagatc	accggacatg	tgaaaaacgg	ttccatgagg	4860
atcgtggggc	ctaggacctg	tagtaacacg	tggcatggaa	cattccccat	taacgcgtac	4920
accacgggcc	cctgcacgcc	ctccccggcg	ccaaattatt	ctagggcgct	gtggcgggtg	4980
gctgctgagg	agtacgtgga	ggttacgcgg	gtgggggatt	tccactacgt	gacgggcatg	5040
		cccgtgtcag				5100
gatggggtge	ggttgcacag	gtacgctcca	gegtgeaaac	ccctcctacg	ggaggaggtc	5160
ccaacataa	cagtgeteac	tcaatacctg ttccatgctc	accoaccoct	ageteecatg	cgagcccgaa	5220 5280
gctaagcgta	gactaaccaa	gggatctccc	ccctccttaa	ccacctcatc	agctagccag	5340
ctgtctgcgc	cttccttgaa	ggcaacatgc	actacccqtc	atgactcccc	ggacgctgac	5400
ctcatcgagg	ccaacctcct	gtggcggcag	gagatgggcg	ggaacatcac	ccqcqtqqaq	5460
tcagaaaata	aggtagtaat	tttggactct	ttcgagccgc	tccaagcgga	ggaggatgag	5520
agggaagtat	ccgttccggc	ggagatcctg	cggaggtcca	ggaaattccc	tcgagcgatg	5580
		ttacaaccct				5640
tacgtccctc	cagtggtaca	cgggtgtcca	ttgccgcctg	ccaaggcccc	tccgatacca	5700.
cctccacgga	ggaagaggac	ggttgtcctg	tcagaatcta	ccgtgtcttc	tgccttggcg	5760
aggeregeea	caaagacctt	cggcagctcc	gaategtegg	ccgtcgacag	cggcacggca	5820
tectecatee	cccccttga	ctccgacgac gggggagccg	ggcgacgcgg	atctcacca	caratettaa	5880 5940
tctaccgtaa	acasaasaac	tagtgaggac	atcatctact	acticagega	ctacacatoo	6000
acaggcgccc	tgatcacgcc	atgcgctgcg	gaggaaacca	agctgcccat	caatgcactg	6060
agcaactctt	tgctccgtca	ccacaacttg	gtctatgcta	caacatctcq	cagcgcaagc	6120
ctgcggcaga	agaaggtcac	ctttgacaga	ctgcaggtcc	tggacgacca	ctaccgggac	6180
gtgctcaagg	agatgaaggc	gaaggcgtcc	acagttaagg	ctaaacttct	atccgtggag	6240
		cccacattcg				6300
gacgtccgga	acctatccag	caaggccgtt	aaccacatcc	gctccgtgtg	gaaggacttg	6360
ctggaagaca	ctgagacacc	aattgacacc	accatcatgg	caaaaaatga	ggttttctgc	6420
attcatatat	agaagggggg	ccgcaagcca ggccctttac	getegeetta	coaccataca	taragagaga	6480 6540
atgggctctt	catacogatt	ccaatactct	cctggagagag	gggtcgagtt	cctcctcat	6600
qcctqqaaaq	cgaagaaatg	ccctatgggc	ttcgcatatg	acacccacta	ttttgactca	6660
acggtcactg	agaatgacat	ccgtgttgag	gagtcaatct	accaatgttg	tgacttggcc	6720
cccgaagcca	gacaggccat	aaggtcgctc	acagagcggc	tttacatcgg	gggccccctg	6780
actaattcta	aagggcagaa	ctgcggctat	cgccggtgcc	gcgcgagcgg	tgtactgacg	6840
accagctgcg	gtaataccct	cacatgttac	ttgaaggccg	ctgcggcctg	tcgagctgcg	6900
aagctccagg	actgcacgat	gctcgtatgc	ggagacgacc	ttgtcgttat	ctgtgaaagc	6960
geggggaeee	aagaggacga	ggcgagccta	cgggccttca	cggaggctat	gactagatac	7020
tcctccaata	tatcaatcac	gcccaaacca gcacgatgca	tataaaaaa	rggagttgat	tatanagast	7080 7140
		gegggetgeg				7200
tcctggctag	gcaacatcat	catgtatgcg	cccaccttat	ggggaaggat	gatcctgatg	7260
actcatttct	tctccatcct	tctagctcag	gaacaacttg	aaaaaqccct	agattgtcag	7320
atctacgggg	cctgttactc	cattgagcca	cttgacctac	ctcagatcat	tcaacgactc	7380
catggcctta	gcgcattttc	actccatagt	tactctccag	gtgagatcaa	tagggtggct	7440
tcatgcctca	ggaaacttgg	ggtaccgccc	ttgcgagtct	ggagacatcg	ggccagaagt	7500
gtccgcgcta	ggctactgtc	ccaggggggg	agggctgcca	cttgtggcaa	gtacctcttc	7560
aactgggcag	taaggaccaa	gctcaaactc	actccaatcc	cggctgcgtc	ccagttggat	7620
acccdaccc	ggtaggtage	tggttacagc	gggggagaca	tatatcacag	cctgtctcgt	7680
ctactcccca	accostosso	gtggtgccta ggggacctaa	acactccacc	ccastaccc	agguatutat	7740 7800
tttccctttt	ttttttttt	tttttttt	ttttttt	tttttttt	tteteettt	7860
tttttcctct	ttttttcctt	ttctttcctt	tagtagetee	atcttagggg	tagtcacggc	7920
tagctgtgaa	aggtccgtga	gccgcttgac	tgcagagagt	qctgatactg	geetetetae	7980
agatcaagta	ctcctgcagg	cgcgccacta	gtgggaatac	gcggggtatg	ccgcgtttta	8040
gcatattgac	gacccaattc	tcatgtttga	cagcttatca	tcgataagct	ttaatgcggt	8100

				gtatgaaatc		8160
				gcataggctt		8220
				gcatcgccag		8280
gtgctgctag	cgctatatgc	gttgatgcaa	tttctatgcg	cacccgttct	cggagcactg	8340
				tacttqqagc		8400
tacgcgatca	tggcgaccac	acccgtcctg	tggatcctct	acgccggacg	catcgtggcc	8460
ggcatcaccg	gcgccacagg	tgcggttgct	ggcgcctata	tcgccgacat	caccgatggg	8520
gaagatcggg	ctcgccactt	cgggctcatg	agcgcttgtt	tcggcgtggg	tatggtggca	8580
ggccccgtgg	ccgggggact	gttgggcgcc	atctccttgc	atgcaccatt	ccttgcggcg	8640
gcggtgctca	acggcctcaa	cctactactg	ggctgcttcc	taatgcagga	gtcgcataag	8700
ggagagcgtc	gaccgatgcc	cttgagagcc	ttcaacccag	tcagctcctt	ccggtgggcg	8760
cggggcatga	ctatcgtcgc	cgcacttatg	actgtcttct	ttatcatgca	actcgtagga	8820
caggtgccgg	cagcgctctg	ggtcattttc	ggcgaggacc	gctttcgctg	gagcgcgacg	8880
				ccctcgctca		8940
				ttatcgccgg		9000
				gctggatggc		9060
				tgcaggccat		9120
				tcgcggctct		9180
				ccgcctcggc		9240
				tetgeetece		9300
				ccggcggcac		9360
				gagaactgtg		9420
				cagcagccgc		9480
				cgtgctcctg		9540
				tgaatcaccg		9600
				agcaacaaca		9660
teggttteeg	tgtttcgtaa	agtctggaaa	cgcggaagtc	agcgccctgc	accattatqt	9720
				aacacctaca		9780
				ccgccgcatc		9840
				atcatcagta		9900
				gaacagaaat		9960
				aacatggccc		10020
				gacgcggatg		10080
				cgcagctgcc		10140
cggtgatgac	ggtgaaaacc	tctgacacat	gcagctcccg	gagacggtca	cagcttgtct	10200
				tcagcgggtg		10260
tcggggcgca	gccatgaccc	agtcacgtag	cgatagcgga	gtgtatactg	gcttaactat	10320
				ggtgtgaaat		10380
tgcgtaagga	gaaaataccg	catcaggcgc	tcttccgctt	cctcgctcac	tgactcgctg	10440
				caaaggcggt		10500
				caaaaggcca		10560
				ggctccgccc		10620
				cgacaggact		10680
caggcgtttc	cccctggaag	ctccctcgtg	cgctctcctg	ttccgaccct	gccgcttacc	10740
ggatacctgt	ccgcctttct	cccttcggga	agcgtggcgc	tttctcatag	ctcacgctgt	10800
				gctgtgtgca		10860
gttcagcccg	accgctgcgc	cttatccggt	aactatcgtc	ttgagtccaa	cccggtaaga	10920
cacgacttat	cgccactggc	agcagccact	ggtaacagga	ttagcagagc	gaggtatgta	10980
				gctacactag		11040
				aaagagttgg		11100
tccggcaaac	aaaccaccgc	tggtagcggt	ggtttttttg	tttgcaagca	gcagattacg	11160
cgcagaaaaa	aaggatctca	agaagatcct	ttgatctttt	ctacggggtc	tgacgctcag	11220
tggaacgaaa	actcacgtta	agggattttg	gtcatgagat	tatcaaaaag	gatcttcacc	11280
tagatccttt	tctagataat	acgactcact	ata	_	_	11313

```
<210> 13
<211> 11184
<212> DNA
<213> Artificial Sequence
<220>
<223> Plasmid
<400> 13
```

gccagccccc	qattgggggc	gacactccac	catagatcac	tcccctgtga	ggaactactg	60
		agccatggcg	_			120
		tagtggtctg				180
gacgaccggg	tcctttcttg	gatcaacccg	ctcaatgcct	ggagatttgg	gcgtgccccc	240
		atattaaatc				300
		aggtctcgta				360
ctcaaagaaa	aaccaaaggg	cgcgccatga	ttgaacaaga	tggattgcac	gcaggttctc	420
		ctattcggct				480
		ctgtcagcgc				540
acctgtccgg	tgccctgaat	gaactgcagg	acgaggcagc	geggetateg	tggctggcca	600
		gctgtgctcg				660
		gggcaggatc				720
aagtatccat	catggctgat	gcaatgcggc	ggctgcatac	gcttgatccg	gctacctgcc	780
		catcgcatcg				840
		gacgaagagc				900
ccaggctcaa	ggcgcgcatg	cccgacggcg	aggatctcgt	cgtgacccat	ggcgatgcct	960
		gaaaatggcc				1020
		caggacatag				1080
ttggcggcga	atgggctgac	cgcttcctcg	tgctttacgg	tatcgccgct	cccgattcgc	1140
		cttcttgacg				1200
						1260
		attccgcccc				
cgaagccgct	tggaataagg	ccggtgtgcg	tttgtctata	tgttattttc	caccatattg	1320
		ggcccggaaa				1380
						1440
		caaaggaatg				
gttcctctgg	aagcttcttg	aagacaaaca	acgtctgtag	cgaccctttg	caggcagcgg	1500
aaccccccac	ctaacaacaa	gtgcctctgc	ggccaaaagc	cacqtqtata	agatacacct	1560
						1620
gcaaaggcgg	Cacaacccca	gtgccacgtt	grgagrrgga	Lagitgegga	aagagttaaa	
tggeteteet	caagcgtatt	caacaagggg	ctgaaggatg	cccagaaggt	accccattgt	1680
atgggatctg	atctqqqqcc	tcggtgcaca	tqctttacat	atatttaatc	gaggttaaaa	1740
		cacggggacg				1800
atggcgccta	ttacggccta	ctcccaacag	acgcgaggcc	tacttggctg	catcatcact	1860
agcctcacag	gccgggacag	gaaccaggtc	gagggggagg	tccaagtggt	ctccaccgca	1920
		ctgcgtcaat				1980
		cccaaagggc				2040
caggacctcg	tcggctggca	agcgccccc	ggggcgcgtt	ccttgacacc	atgcacctgc	2100
		ggtcacgagg				2160
						2220
		actctccccc				
ggcggtccac	tgctctgccc	ctcggggcac	gctgtgggca	tctttcgggc	tgccgtgtgc	2280
		ggtggacttt				2340
		caactcgtcc				2400
gcccatctac	acgcccctac	tggtagcggc	aagagcacta	aggtgccggc	tgcgtatgca	2460
acccaaggat	ataaggtgct	tgtcctgaac	ccatccatca	ccaccaccct	aggtttcggg	2520
gggtatatat	at abaddaada	tggtatcgac	aataaaataa	assagaat	2266266246	2580
		gtactccacc				2640
tctgggggcg	cctatgacat	cataatatgt	gatgagtgcc	actcaactga	ctcgaccact	2700
	_	cctggaccaa		_	_	2760
						2820
		gggatcggtc				
gctctgtcca	gcactggaga	aatccccttt	tatggcaaag	ccatccccat	cgagaccatc	2880
		tttctgccat				2940
		caatgctgta				3000
ataccaacta	gcggagacgt	cattgtcgta	gcaacggacg	ctctaatgac	gggctttacc	3060
ggcgatttcg	actcagtgat	cgactgcaat	acatototca	cccagacagt	cgacttcagc	3120
						3180
		tgagacgacg				
		taggggcagg				3240
gaacggccct	cgggcatgtt	cgattcctcg	gttctgtgcg	agtgctatga	cgcgggctgt	3300
		cgccgagacc				3360
5000550005		-300343400			tocauacaca	
ccayygttgc	cogcoca	ggaccatctg	gageeetggg	agagegtett	Lacaygeete	3420
acccacatag	acgcccattt	cttgtcccag	actaagcagg	caggagacaa	cttcccctac	3480
		ggtgtgcgcc				3540
casatataas	antatatast	22-2-2-2-	- 22222222	2000000		3600
Ladacycyga	aguguettat	acggctaaag	'	acygyccaac	accordend	
cataggctgg	yagccgttca	aaacgaggtt	actaccacac	accccataac	caaatacatc	3660
atggcatgca	tgtcagctga	cctggaggtc	gtcacqaqca	cctggatact	ggtaggcgga	3720
gtcctaggag	ctctggccgc	gtattgcctg	20220002	acataatast	tatagggagg	3780
Stastattat	aaaaaaaaa	June of cold	acaacayyca	gogogocac		
accatettgt	ccggaaagcc	ggccatcatt	cccgacaggg	aagtctttta	ccgggagttc	3840
gatgagatgg	aagagtgcgc	ctcacacctc	ccttacatcg	aacggggaat	gcagctcgcc	3900
gaacatttca	aacagaaggg	aatcgggttg	ctocaaacac	ccaccaacca	agcggaggct	3960
J				Toutourgea	-3-33-53-6	2200

gctgctcccg	cggtggaatc	caagtggcgg	accctcgaag	ccttctgggc	gaagcatatq	4020
tggaatttca	tcagcgggat	acaatattta	gcaggcttgt	ccactctgcc	tggcaacccc	4080
				gcccgctcac		4140
				aacttgctcc		4200
acttetactt	teatagagag	gaagatcact	ggaggggtg	ttggcagcat	aggeettaaa	4260
aaggtgcttg	tggatatttt	ggcaggttat	adadcadada	tggcaggcgc	acteatagee	4320
tttaaggtca	tgagcggcga	gatgcctcc	accdaddacc	tggttaacct	actccctcct	4380
				cagcgatact		4440
				tgatagcgtt		4500
gegggeeeag	999a99999c	cgcgcagcgg	acgaaccggc	acgctgcagc	agetetegegg	
						4560
				ggcttcacca		4620
				atgtttggga		4680
				teetgeegeg		4740
				ggcgggggga		4800
				tgaaaaacgg		4860
				cattccccat		4920
				ctagggcgct		4980
				tccactacgt		5040
accactgaca	acgtaaagtg	cccgtgtcag	gttccggccc	ccgaattctt	cacagaagtg	5100
gatggggtgc	ggttgcacag	gtacgctcca	gcgtgcaaac	ccctcctacg	ggaggaggtc	5160
acattcctgg	tcgggctcaa	tcaatacctg	gttgggtcac	agctcccatg	cgagcccgaa	5220
				cccacattac		5280
				ccagctcatc		5340
				atgactcccc		5400
				ggaacatcac		5460
				tccaagcgga		5520
				ggaaattccc		5580
				agtcctggaa		5640
				ccaaggcccc		5700
				ccgtgtcttc		5760 5760
				ccgtcgacag		5820
				cctacacatg		5880
				tcaatgcact		5940
				gcagcgcaag		6000
				actaccggga		6060
				tatccgtgga		6120
				atggggcaaa		6180
				ggaaggactt		6240
				aggttttctg		6300
				cagatttggg		6360
				ctcaggccgt		6420
				tcctggtgaa		6480
gcgaagaaat	gccctatggg	cttcgcatat	gacacccgct	gttttgactc	aacggtcact	6540
gagaatgaca	tccgtgttga	ggagtcaatc	taccaatgtt	gtgacttggc	ccccgaagcc	6600
agacaggcca	taaggtcgct	cacagagcgg	ctttacatcg	ggggccccct	gactaattct	6660
aaagggcaga	actgcggcta	tcgccggtgc	cgcgcgagcg	gtgtactgac	gaccagctgc	6720
ggtaataccc	tcacatgtta	cttgaaggcc	gctgcggcct	gtcgagctgc	gaagctccag	6780
gactgcacga	tgctcgtatg	cggagacgac	cttgtcgtta	tctgtgaaag	cgcggggacc	6840
caagaggacg	aggcgagcct	acgggccttc	acggaggcta	tgactagata	ctctgccccc	6900
cctggggacc	cgcccaaacc	agaatacgac	ttggagttga	taacatcatg	ctcctccaat	6960
				atctcacccg		7020
				ctccagtcaa		7080
ggcaacatca	tcatqtatqc	gcccaccttg	tagacaagga	tgatcctgat	gactcatttc	7140
				tagattgtca		7200
acctattact	ccattgagcc	acttgaccta	cctcagatca	ttcaacgact	ccatggcctt	7260
agcgcatttt	cactccatag	ttactctcca	ggtgagatca	atagggtggc	ttcatgcctc	7320
				gggccagaag		7380
aggetactet	cccsaaaaaa	daddactacc	acttataaca	agtacctctt	caactggggg	7440
gtaaggacca	ageteaaact	cactccaatc	ccaactacat	cccagttgga	tttatccacc	7500
taatteatta	ctggttagag	Cadadaaaaa	atatatosos	gcctgtctcg	taccasaca	7560
cactaatte	tatactacat	actectactt	tototacaca	tagggatata	totactocco	7620
				taggcatcta		7620
++++++	tttttt	++++++	y.ccaacaggc	catcctgttt		
++++++	+++-++	++~-+~		tttctccttt	ctucteecce	7740
naget ceet	LLLCLTTCCT	ctggtggcte	catettagee	ctagtcacgg	ctagetgtga	7800
aayguccytg	ageegettga	cugcagagag	rgctgatact	ggcctctctg	cagaccaagt	7860
acceergeag	gegegeeact	agugggaata	cgcggggtat	gccgcgtttt	agcatattga	7920

cgacccaatt	ctcatgtttg	acagcttatc	atcgataagc	tttaatgcgg	tagtttatca	7980
cagttaaatt	gctaacgcag	tcaggcaccg	tgtatgaaat	ctaacaatgc	gctcatcqtc	8040
atcctcggca	ccgtcaccct	ggatgctgta	ggcataggct	tggttatgcc	ggtactgccg	8100
ggcctcttgc	gggatatcgt	ccattccgac	agcatcgcca	gtcactatgg	cgtqctqcta	8160
gcgctatatg	cgttgatgca	atttctatgc	gcacccgttc	toggagdadt	gteegaeege	8220
tttggccgcc	gcccagtcct	gctcgcttcg	ctacttggag	ccactatcga	ctacgcgatc	8280
atggcgacca	cacccgtcct	gtggatcctc	tacgccggac	gcatcgtggc	cggcatcacc	8340
ggcgccacag	gtgcggttgc	tggcgcctat	atcgccgaca	tcaccgatgg	ggaagatcgg	8400
gctcgccact	tcgggctcat	gagcgcttgt	ttcggcgtgg	gtatggtggc	aggccccgtg	8460
gccgggggac	tgttgggcgc	catctccttg	catgcaccat	tccttgcggc	ggcggtgctc	8520
aacggcctca	acctactact	gggctgcttc	ctaatgcagg	agtcgcataa	gggagagcgt	8580
cgaccgatgc	ccttgagagc	cttcaaccca	gtcagctcct	tccggtgggc	gcggggcatg	8640
actatcgtcg	ccgcacttat	gactgtcttc	tttatcatgc	aactcgtagg	acaggtgccg	8700
gcagcgctct	gggtcatttt	cggcgaggac	cgctttcgct	ggagcgcgac	gatgatcggc	8760
ctgtcgcttg	cggtattcgg	aatcttgcac	gccctcgctc	aagccttcgt	cactggtccc	8820
gccaccaaac	gtttcggcga	gaagcaggcc	attatcgccg	gcatggcggc	cgacgcgctg	8880
ggctacgtct	tgctggcgtt	cgcgacgcga	ggctggatgg	ccttccccat	tatgattctt	8940
ctcgcttccg	gcggcatcgg	gatgcccgcg	ttgcaggcca	tgctgtccag	gcaggtagat	9000
gacgaccatc	agggacagct	tcaaggatcg	ctcgcggctc	ttaccagcct	aacttcgatc	9060
				cgagcacatg		9120
gcatggattg	taggcgccgc	cctatacctt	gtctgcctcc	ccgcgttgcg	tcgcggtgca	9180
tggagccggg	ccacctcgac	ctgaatggaa	gccggcggca	cctcgctaac	ggattcacca	9240
ctccaagaat	tggagccaat	caattcttgc	ggagaactgt	gaatgcgcaa	accaaccctt	9300
ggcagaacat	atccatcgcg	tccgccatct	ccagcagccg	cacgcggcgc	atctcgggca	9360
gcgttgggtc	ctggccacgg	gtgcgcatga	tcgtgctcct	gtcgttgagg	acccggctag	9420
gctggcgggg	ttgccttact	ggttagcaga	atgaatcacc	gatacgcgag	cgaacgtgaa	9480
gcgactgctg	ctgcaaaacg	tctgcgacct	gagcaacaac	atgaatggtc	ttcggtttcc	9540
gtgtttcgta	aagtctggaa	acgcggaagt	cagcgccctg	caccattatg	ttccggatct	9600
gcatcgcagg	atgctgctgg	ctaccctgtg	gaacacctac	atctgtatta	acgaagcgct	9660
ggcattgacc	ctgagtgatt	tttctctggt	cccgccgcat	ccataccgcc	agttgtttac	9720
cctcacaacg	ttccagtaac	cgggcatgtt	catcatcagt	aacccgtatc	gtgagcatcc	9780
tetetegttt	catcggtatc	attaccccca	tgaacagaaa	ttccccctta	cacggaggca	9840
tcaagtgacc	aaacaggaaa	aaaccgccct	taacatggcc	cgctttatca	gaagccagac	9900
				gaacaggcag		9960
atcgcttcac	gaccacgctg	atgagcttta	ccgcagctgc	ctcgcgcgtt	tcggtgatga	10020
cggtgaaaac	ctctgacaca	tgcagctccc	ggagacggtc	acagettgte	tgtaagcgga	10080
tgccgggagc	agacaagccc	gtcagggcgc	gtcagcgggt	gttggcgggt	gtcggggcgc	10140
agccatgacc	cagtcacgta	gcgatagcgg	agtgtatact	ggcttaacta	tgcggcatca	10200
				taccgcacag		10260
agaaaatacc	gcatcaggcg	ctcttccgct	tcctcgctca	ctgactcgct	gcgctcggtc	10320
grrcggcrgc	ggcgagcggt	atcagctcac	tcaaaggcgg	taatacggtt	atccacagaa	10380
				agcaaaaggc		10440
aaaaaggccg	cgttgctggc	gtttttccat	aggeteegee	cccctgacga	gcatcacaaa	10500
aatcgacgct	caagtcagag	grggcgaaac	ccgacaggac	tataaagata	ccaggcgttt	10560
ccccctggaa	geteectegt	gcgctctcct	gttccgaccc	tgccgcttac	cggatacetg	10620
teegeettte	teeetteggg	aagcgtggcg	ctttctcata	gctcacgctg	taggtatete	10680
agtteggtgt	aggregrieg	ctccaagctg	ggctgtgtgc	acgaaccccc	cgttcagccc	10740
gaccgctgcg	ccttatccgg	taactatcgt	cttgagtcca	acccggtaag	acacgactta	10800
tegecaetgg	cagcagccac	tggtaacagg	attagcagag	cgaggtatgt	aggcggtgct	10860
acagagttet	Lgaagtggtg	gcctaactac	ggctacacta	gaaggacagt	atttggtatc	10920
cgcgctctgc	cgaagccagt	taccttcgga	aaaagagttg	gtagctcttg	acccggcaaa	10980
caaaccaccg	ceggeagegg	rggtttttt	gcccgcaagc	agcagattac	gcgcagaaaa	11040
adayyatete	aagaagatcc	cctgatcttt	tctacggggt	ctgacgctca	gtggaacgaa	11100
ttotacett	tagggatttt	ggtcatgaga	ccaccaaaaa	ggatcttcac	ctagatcctt	11160
ccccayataa	tacgactcac	Lala				11184

```
<210> 14
<211> 11184
<212> DNA
<213> Artificial Sequence
<220>
<223> Plasmid
```

-10	0> 14					
		gacactccac	catagatcac	tcccctgtga	ggaactactg	60
tcttcacgca	gaaagcgtct	agccatggcg	ttagtatgag	tgtcgtgcag	cctccaggac	120
ccccctccc	gggagagcca	tagtggtctg	cggaaccggt	gagtacaccg	gaattgccag	180
gacgaccggg	tcctttcttg	gatcaacccg	ctcaatgcct	ggagatttgg	gcgtgccccc	24Ŭ
gcgagactgc	tagccgagta	gtgttgggtc	gcgaaaggcc	ttgtggtact	gcctgatagg	300
gtgcttgcga	gtgccccggg	aggtctcgta	gaccgtgcac	catgagcacg	aatcctaaac	360
ctcaaagaaa	aaccaaaggg	cgcgccatga	ttgaacaaga	tggattgcac	gcaggttctc	420
cggccgcttg	ggtggagagg	ctattcggct	atgactgggc	acaacagaca	atcggctgct	480
ctgatgccgc	cgtgttccgg	ctgtcagcgc	aggggcgccc	ggttctttt	gtcaagaccg	540
accegeegg	tgccctgaat	gaactgcagg	acgaggcagc	gcggctatcg	tggctggcca	600
tactattaca	casactaga	getgtgeteg	acgregecae	tgaagcggga	agggactggc	660
aagtatccat	catagegeeg	gggcaggacc	gggtggatag	tcaccttgct gcttgatccg	cetgeegaga	720
cattcgacca	ccaagcgaaa	catcacatca	accascacac	tactcggatg	getacetgee	780
ttgtcgatca	ggatgatctg	gacgaagagc	atcagggggt	cgcgccagec	gaageeggee	840 900
ccaggeteaa	gacacacata	cccdacddcd	aggatetegt	cgtgacccat	gaactgatact	960
gcttgccgaa	tatcatqqtq	qaaaatqqcc	acttttctaa	attcatcgac	tataaccaac	1020
tgggtgtggc	ggaccgctat	caggacatag	cqttqqctac	ccgtgatatt	gctgaagagc	1080
ttggcggcga	atgggctgac	cgcttcctcg	tgctttacgg	tatcgccgct	cccgattcgc	1140
agcgcatcgc	cttctatcgc	cttcttgacg	agttcttctg	agtttaaaca	gaccacaacg	1200
gtttccctct	agcgggatca	attccgcccc	tctccctccc	cccccctaa	cgttactggc	1260
cgaagccgct	tggaataagg	ccggtgtgcg	tttgtctata	tgttattttc	caccatattg	1320
ccgtcttttg	gcaatgtgag	ggcccggaaa	cctggccctg	tcttcttgac	gagcattcct	1380
aggggtcttt	cccctctcgc	caaaggaatg	caaggtctgt	tgaatgtcgt	gaaggaagca	1440
gtteetetgg	aagcttcttg	aagacaaaca	acgtctgtag	cgaccctttg	caggcagcgg	1500
aacccccac	ctggcgacag	gtgcctctgc	ggccaaaagc	cacgtgtata	agatacacct	1560
taactataat	cacaacccca	gigeeaeget	gtgagttgga	tagttgtgga	aagagtcaaa	1620
atgggatctg	atctggggc	tcaacaagggg	tactttacat	cccagaaggt gtgtttagtc	accccattgt	1680 1740
aacgtctagg	ccccccaac	cacagggaca	taattttacat	ttgaaaaaca	gaggitaaaa	1800
atggcgccta	ttacggccta	ctcccaacag	acacasaacc	tacttggctg	catcatcact	1860
agcctcacag	gccgggacag	qaaccaqqtc	gaggggagg	tccaagtggt	ctccaccaca	1920
acacaatctt	tcctggcgac	ctgcgtcaat	ggcgtgtgtt	ggactgtcta	tcatggtgcc	1980
ggctcaaaga	cccttgccgg	cccaaagggc	ccaatcaccc	aaatgtacac	caatgtggac	2040
caggacctcg	tcggctggca	agcgcccccc	ggggcgcgtt	ccttgacacc	atgcacctgc	2100
ggcagcgcgg	acctttactt	ggtcacgagg	catgccgatg	tcattccggt	gcgccggcgg	2160
ggcgacagca	gggggagcct	actctcccc	aggcccgttt	cctacttgaa	gggctcttcg	2220
ggcggtccac	tgctctgccc	ctcggggcac	gctgtgggca	tctttcgggc	tgccgtgtgc	2280
accegaggg	ttgcgaaggc	ggtggacttt	gtacccgtcg	agtctatggg	aaccactatg	2340
eggteeeegg	tetteaegga	caactcgtcc	cctccggccg	taccgcagac	attccaggtg	2400
geecatetae	ataagetget	tataataaaa	aagagcacta	aggtgccggc	tgcgtatgca	2460
gcccaagggc	ctaaggugu	toctatocac	ccgtccgtcg	ccgccaccct gaaccggggt	aggtttcggg	2520
accacagata	cccccatcac	gtactccacc	tataggaagt	ttcttgccga	contractor	2580 2640
tctaaaaaca	cctatgacat	cataatatot	gatgagtgcc	actcaactga	ctccaccact	2700
atcctgggca	tcggcacagt	cctqqaccaa	acadadacaa	ctggagcgcg	actcatcata	2760
ctcgccaccg	ctacgcctcc	gggatcggtc	accgtgccac	atccaaacat	cqaqqaqqtq	2820
gctctgtcca	gcactggaga	aatccccttt	tatggcaaag	ccatccccat	cgagaccatc	2880
aagggggga	ggcacctcat	tttctgccat	tccaagaaga	aatgtgatga	gctcgccgcg	2940
aagctgtccg	gcctcggact	caatgctgta	gcatattacc	ggggccttga	tgtatccgtc	3000
ataccaacta	gcggagacgt	cattgtcgta	gcaacggacg	ctctaatgac	gggctttacc	3060
ggcgatttcg	actcagtgat	cgactgcaat	acatgtgtca	cccagacagt	cgacttcagc	3120
ctggacccga	ccttcaccat	tgagacgacg	accgtgccac	aagacgcggt	gtcacgctcg	3180
cagcggcgag	gcaggactgg	taggggcagg	atgggcattt	acaggtttgt	gactccagga	3240
gaacggcccc	egggeatgtt	cgattcctcg	gttctgtgcg	agtgctatga	cgcgggctgt	3300
ccagggttacg	contracce	rgaccatata	cagttaggt	tgcgggctta	tagaggge	3360
acccacatac	acgcccattt	cttatacaea	actaaccacc	agagcgtctt caggagacaa	cttcccctcc	3420 3480
ctggtagcat	accaggetae	gatatacaca	aggggtgagg	ctccacctcc	atcotoccac	3480 3540
caaatqtqqa	agtgtctcat	acqqctaaaq	cctacactac	acgggccaac	acceptacta	3600
tataggctgg	gagccgttca	aaacgaggtt	actaccacac	accccataac	caaatacatc	3660
atggcatgca	tgtcagctga	cctggaggtc	gtcacgagca	cctgggtgct	ggtaggcgga	3720
gtcctagcag	ctctggccgc	gtattgcctg	acaacaqqca	gcgtggtcat	tataaacaaa	3780
atcatcttgt	ccggaaagcc	ggccatcatt	cccgacaggg	aagtcttta	ccqqqaqttc	3840
gatgagatgg	aagagtgcgc	ctcacacctc	ccttacatcg	aacggggaat	gcagctcgcc	3900

gaacatttca	aacagaaggc	aatcgggttg	ctgcaaacag	ccaccaagca	agcggaggct	3960
actactacca	cagtagaatc	caagtggcgg	accetegaag	ccttctgggc	gaaggatatg	4020
togatttoa	traccoccat	20221255	accorditat	ccactctgcc	gaagcatatg	
reset	coagoggac	acaacaccca	geaggerege	ccaccctgee	Lggcaacccc	4080
gegatageat	cactgatgge	atteacagee	tctatcacca	gcccgctcac	cacccaacat	4140
accetectgt	ttaacatcct	gggggat.gg	apaaccacca	aacttgctcc	teccageget	4 <b>2</b> 00
gcttctgctt	tcgtaggcgc	cggcatcgct	ggagcggctg	ttggcagcat	aggeettggg	4260
aaggtgcttg	togatatttt	ggcaggttat	adadcadada	tggcaggcgc	actactaca	4320
tttaaggtga	tasacaacas	gatagaetaa	33~3~~3333	gg-ugg-g-	getegeget	
cttaaggtta	cgagcggcga	gatgeteete	accyayyacc	tggttaacct	actccctgct	4380
atcctctccc	craacaccc	agrcgrcggg	grcgrgrgcg	cagcgatact	gcgtcggcac	4440
gtgggcccag	gggaggggc	tgtgcagtgg	atgaaccggc	tgatagcgtt	cgcttcgcgg	4500
ggtaaccacg	tctccccac	gcactatgtg	cctgagagcg	acgctgcagc	acqtqtcact	4560
cagatectet	ctagtettae	catcactcag	ctactaaaga	ggcttcacca	ataataaa	4620
aagaaataat	ccaccacta	atacaastaa	tagataaga	2200000000	bbases	
gaggactgct	-tt-		cggccaagag	atgtttggga	Liggatatge	4680
acggigitga	cigatiteaa	gacctggctc	cagtecaage	tcctgccgcg	attgccggga	4740
gtccccttct	tctcatgtca	acgtgggtac	aagggagtct	ggcggggcga	cggcatcatg	4800
caaaccacct	gcccatgtgg	agcacagatc	accggacatg	tgaaaaacgg	ttccatgagg	4860
atcatagaac	ctaggacctg	tagtaacacg	togcatogaa	cattccccat	taacqcqtac	4920
accacaaacc	cctacacaca	ctccccaca	ccaaattatt	ctagggcgct	ataaaaaata	
actactaca	artagee	eccccggcg	ccaaaccacc	t	gradeadara	4980
getgetgagg	agracgraga	ggccacgegg	gragagarr	tccactacgt	gacgggcatg	5040
accactgaca	acgtaaagtg	cccgtgtcag	gttccggccc	ccgaattctt	cacagaagtg	5100
gatggggtgc	ggttgcacag	gtacgctcca	gcgtgcaaac	ccctcctacg	ggaggaggtc	5160
acattcctqq	tcgggctcaa	tcaatacctq	attagatcac	agctcccatg	cgagcccgaa	5220
ccagacataa	cagtgctcac	ttccatactc	accoaccoct	cccacattac	adadasasa	5280
actaaccata	gagtagaga	ccccacgccc	accepacece	cccacaccac	ggcggagacg	
gccaagcgca	ggccggccag	gggateteee	cecteetigg	ccagctcatc	agctatccag	5340
ctgtctgcgc	cttccttgaa	ggcaacatgc	actacccgtc	atgactcccc	ggacgctgac	5400
ctcatcgagg	ccaacctcct	gtggcggcag	gagatgggcg	ggaacatcac	ccgcgtggag	5460
tcagaaaata	aggtagtaat	tttggagtct	ttcqaqccqc	tccaagcgga	ggaggatgag	5520
agggaagtat	ccattccaac	ggagatcctg	cadadatica	ggaaattccc	tcgagcgatg	5580
cccatatooo	cacteeegg	ttacaaccct	agagatatta	agtcctggaa	cogagogacg	
taggtaggta	cacteetgga		therese	agccccggaa	ggacccggac	5640
Lacgreecte	cagugguaca	egggtgteca	rrgccgccrg	ccaaggcccc	tccggtacca	5700
cccccacgga	ggaagaggac	ggttgtcctg	tcagaatcta	ccgtgtcttc	tgccttggcg	5760
gagctcgcca	caaagacctt	cggcagctcc	gaatcgtcgg	ccgtcgacag	cggcacggca	5820
acggcctctc	ctggtgagga	cgtcgtctgc	tgctcgatgt	cctacacatg	gacaggcgcc	5880
ctgatcacgc	catgcgctgc	qqaqqaaacc	aagctgccca	tcaatgcact	gaggaagtgt	5940
ttactccaac	accacaactt	ggtctatgct	acaacatete	gcagcgcaag	cctacaacaa	6000
aagaaggtca	cctttgacag	actoragete	ctagacaaca	actaccggga	catactassa	6060
dadatdaadd	cassagata	accacagaca	ceggaegaee	totacceggga	cgcgcccaag	
gagacgaagg	cgaaggegee	cacagccaag	getaaaette	tatccgtgga	ggaageetgt	6120
aagutgaugu	CCCCacaccc	ggccagaccc	aaacccggcc	atggggcaaa	ggacgtccgg	6180
aacctatcca	gcaaggccgt	taaccacatc	cgctccgtgt	ggaaggactt	gctggaagac	6240
actgagacac	caattgacac	caccatcatg	gcaaaaaatg	aggttttctg	cgtccaacca	6300
gagaaggggg	gccgcaagcc	agctcgcctt	atcgtattcc	cagatttggg	ggttcgtgtg	6360
tgcgagaaaa	tggcccttta	caatataatc	tccaccctcc	ctcaggccgt	gatgggctct	6420
tcatacggat	tecaatacte	tectagacag	caaatcaaat	tcctggtgaa	tacataass	6480
acasassat	accetatece	attagastat	cagaccaga	ccccggcgaa		
				gttttgactc		6540
				gtgacttggc		6600
				ggggccccct		6660
aaagggcaga	actgcggcta	tcgccggtgc	cgcgcgagcg	gtgtactgac	gaccagctgc	6720
				gtcgagctgc		6780
gactgcacga	tactcatata	cadadacdac	cttgtcgtta	tctgtgaaag	Cacadadacc	6840
Caadaddacd	addcdaddct	accacactta	200320320	tgactagata	ogoggggacc	6900
caagaggacg	aggegageet	acgggccccc	acggaggeta	Lyactagata	etetgeeee	
ceeggggaee	cgcccaaacc	agaatacgac	rrggagrrga	taacatcatg	ctcctccaat	6960
gtgtcagtcg	cgcacgatgc	atctggcaaa	agggtgtact	atctcacccg	tgaccccacc	7020
accccccttg	cgcgggctgc	gtgggagaca	gctagacaca	ctccagtcaa	ttcctggcta	7080
ggcaacatca	tcatgtatgc	gcccaccttg	toggcaagga	tgatcctgat	gactcatttc	7140
ttctccatcc	ttctagctca	ggaacaactt	daaaaadccc	tagattgtca	gatetacece	7200
acctatteat	coattgacca	agttgaggta	gadaaageee	tagaccgcca	gacccacggg	
Journal L	anata anti-	the state and	coccagatca	ttcaacgact	ccauggeett	7260
agegeatttt	cactecatag	ccacccccca	ggtgagatca	atagggtggc	ttcatgcctc	7320
aggaaacttg	gggtaccgcc	cttgcgagtc	tggagacatc	gggccagaag	tgtccgcgct	7380
aggctactgt	cccagggggg	gagggctgcc	acttgtggca	agtacctctt	caactgggca	7440
gtaaggacca	agctcaaact	cactccaatc	ccaactacat	cccagttgga	tttatccacc	7500
taatteatta	ctoottacao	caaaaaaaaa	atatatosco	gcctgtctcg	tacacasas	7560
cactaatta	tataataast	-2222224446	tatatacaca	# accedenced	tataataaaa	
2200225000	-acada	accountable	cccgcagggg	taggcatcta	LULAUTUCCC	7620
aaccyacyaa	cygygaccta	aacactccag	gccaataggc	catcctgttt	ttttcccttt	7680
LCCCCCCCC	LECECETE	tttttttt	tttttttt	tttctccttt	ttttttcctc	7740
tttttttcct	tttctttcct	ttggtggctc	catcttagcc	ctaqtcacqq	ctaqctqtqa	7800
aaggtccgtg	agccgcttga	ctgcagagag	tgctgatact	ggcctctctg	cagatcaagt	7860

				gccgcgtttt		7920
cgacccaatt	ctcatgtttg	acagcttatc	atcgataagc	tttaatgcgg	tagtttatca	7980
cagttaaatt	gctaacgcag	tcaggcaccg	tgtatgaaat	ctaacaatgc	gctcatcgtc	8040
atcctcggca	ccgtcaccct	ggatgctgta	ggcataggct	tggttatgcc	ggtactgccg	8100
ggcctcttgc	gggatatcgt	ccattccgac	agcatcgcca	gtgagtatgg	cgtgctgcta	8168
gcgctatatg	cgttgatgca	atttctatgc	gcacccgttc	tcggagcact	gtccgaccgc	8220
				ccactatcga		8280
atggcgacca	cacccgtcct	gtggatcctc	tacgccggac	gcatcgtggc	cggcatcacc	8340
ggcgccacag	gtgcggttgc	tggcgcctat	atcgccgaca	tcaccgatgg	ggaagatcgg	8400
gctcgccact	tcgggctcat	gagcgcttgt	ttcggcgtgg	gtatggtggc	aggccccgtg	8460
gccgggggac	tgttgggcgc	catctccttg	catgcaccat	tccttgcggc	ggcggtgctc	8520
aacggcctca	acctactact	gggctgcttc	ctaatgcagg	agtcgcataa	gggagagcgt	8580
cgaccgatgc	ccttgagagc	cttcaaccca	gtcagctcct	tccggtgggc	gcggggcatg	8640
actatcgtcg	ccgcacttat	gactgtcttc	tttatcatgc	aactcgtagg	acaggtgccg	8700
gcagcgctct	gggtcatttt	cggcgaggac	cgctttcgct	ggagcgcgac	gatgatcggc	8760
ctgtcgcttg	cggtattcgg	aatcttgcac	gccctcgctc	aagccttcgt	cactggtccc	8820
gccaccaaac	gtttcggcga	gaagcaggcc	attatcgccg	gcatggcggc	cgacgcgctg	8880
ggctacgtct	tgctggcgtt	cgcgacgcga	ggctggatgg	ccttccccat	tatgattctt	8940
ctcgcttccg	gcggcatcgg	gatgcccgcg	ttgcaggcca	tgctgtccag	gcaggtagat	9000
				ttaccagcct		9060
				cgagcacatg		9120
				ccgcgttgcg		9180
				cctcgctaac		9240
ctccaagaat	tggagccaat	caattcttgc	ggagaactgt	gaatgcgcaa	accaaccctt	9300
ggcagaacat	atccatcgcg	tccgccatct	ccagcagccg	cacgcggcgc	atctcgggca	9360
gcgttgggtc	ctggccacgg	gtgcgcatga	tcgtgctcct	gtcgttgagg	acccggctag	9420
gctggcgggg	ttgccttact	ggttagcaga	atgaatcacc	gatacgcgag	cgaacgtgaa	9480
gcgactgctg	ctgcaaaacg	tctgcgacct	gagcaacaac	atgaatggtc	ttcggtttcc	9540
				caccattatg		9600
gcatcgcagg	atgctgctgg	ctaccctgtg	gaacacctac	atctgtatta	acgaagcgct	9660
				ccataccgcc		9720
cctcacaacg	ttccagtaac	cgggcatgtt	catcatcagt	aacccgtatc	gtgagcatcc	9780
tetetegttt	catcggtatc	attaccccca	tgaacagaaa	ttccccctta	cacggaggca	9840
tcaagtgacc	aaacaggaaa	aaaccgccct	taacatggcc	cgctttatca	gaagccagac	9900
attaacgett	ctggagaaac	tcaacgagct	ggacgcggat	gaacaggcag	acatctgtga	9960
atcgcttcac	gaccacgctg	atgagettta	ccgcagctgc	ctcgcgcgtt	tcggtgatga	10020
cggtgaaaac	ctctgacaca	tgcagctccc	ggagacggtc	acagcttgtc	tgtaagcgga	10080
tgccgggagc	agacaagccc	gtcagggcgc	gtcagcgggt	gttggcgggt	gtcggggcgc	10140
agccatgacc	cagtcacgta	gcgatagcgg	agtgtatact	ggcttaacta	tgcggcatca	10200
gagcagattg	tactgagagt	gcaccatatg	cggtgtgaaa	taccgcacag	atgcgtaagg	10260
agaaaatacc	geateaggeg	ctcttccgct	tectegetea	ctgactcgct	gcgctcggtc	10320
tanagaanta	ggcgagcggt	atcageteae	tcaaaggcgg	taatacggtt	atccacagaa	10380
ccaggggata	acgcaggaaa	gaacatgtga	gcaaaaggcc	agcaaaaggc	caggaaccgt	10440
				cccctgacga		10500
aaccyacyct	caagicagag	grggegaaae	cegacaggae	tataaagata	ccaggcgttt	10560
tacacattta	teestteese	gegeteteet	gtteegaeee	tgccgcttac	cggatacctg	10620
				gctcacgctg		10680
agricggrgt	aggregiteg	tooctagetg	ggctgtgtgc	acgaaccccc	cgttcagccc	10740
tagagagata	anganagar	taactategt	cctgagtcca	acccggtaag	acacgactta	10800
agagageta	tageageeac	rygraacagg	accaycagag	cgaggtatgt	aggeggtget	10860
tagagetet	tanageggeg	together=	ggctacacta	gaaggacagt	atttggtatc	10920
cacacacacac	ataataaaa	taccutegga	addayagttg	gtagctcttg	acceggeaaa	10980
aaaaccaccg	cuggiagegg	tttastatt	guilgeaage	agcagattac	gcgcagaaaa	11040
aaayyattit	aayaayattt	catastastas	ttatasasas	ctgacgctca	gcggaacgaa	11100
ttotaceter	taccactors	tata	LLALCAAAAA	ggatcttcac	ccagateett	11160
ccccayacaa	tacgactcac	caca				11184

```
<210> 15
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Primer
```

<400> agtatcgtgg t		:			21
<210>	16				
<211>	36 .				
<212>	DNA				
<213>	Artificial	Sequence			
<220>					
<223>	Primer				
<400>	16				
taatacgact c	actataggg a	itgtggctgg a	gatgc		36
<213> <220> <223> <400>	Artificial Primer 16	-	gatgc		36